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- The DOJ files an antitrust suit to block Oracle's hostile grab for PeopleSoft.
- Microsoft's 'Windows lite' for Thailand piques interest of other users

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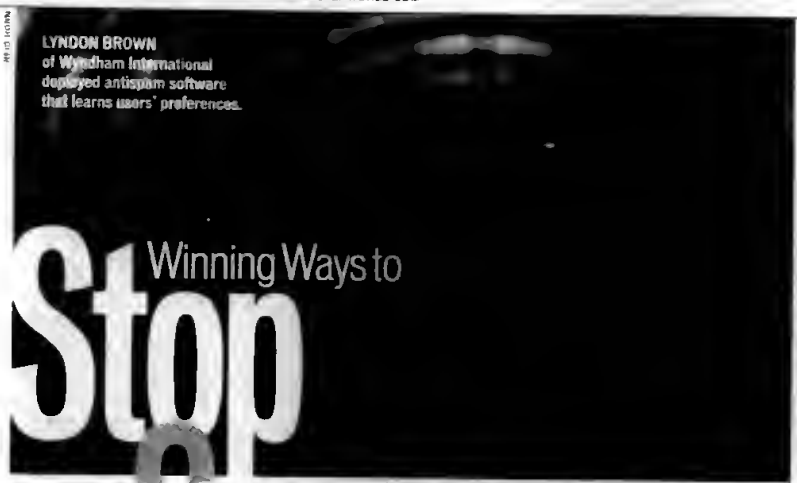

LYNDON BROWN of Wyndham International deployed antispam software that learns users' preferences.

Winning Ways to Stop Spam

Some companies have nearly won the war, blocking as much as 98% of junk e-mail. We examine the get-tough strategies of several companies. PAGE 21

HP Bows to Users, Opts to Offer Opteron

Embrace of chip it once dubbed 'unnecessary' surprises, pleases customers who asked for it

BY PATRICK THIBODEAU

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HP may not have had any choice. It was becoming increasingly difficult to say no to large users such as Seattle-based Amazon.com Inc., which plans to evaluate HP's Opteron ProLiant servers.

The online retailer "sees great value" in HP offering the Opteron-based systems, said Walt Nelson, Amazon's manager of hardware and operating systems engineering. "In addition to delivering a

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R&D Starts to Move Offshore

Outsourcing evolves beyond low-wage programming jobs

BY PATRICK THIBODEAU AND SUMNER LEMON

As corporate America becomes increasingly comfortable with offshore development, it's sending substantially more sophisticated IT work overseas. Companies such as Google Inc. are turning to foreign workers not for their willingness to work for lower wages but for their technological prowess.

Google is advertising for highly skilled IT help at its recently opened research and development facility in Bangalore, India. These employees will be involved in all aspects of Google's computer engineering work: conception, research, implementatioo and deployment.

"Bangalore is the so-called Silicon Valley of India, and there is a large pool of talented software engineers there," said Krishna Bharat, Google's principal scientist.

R&D is core to most companies. They guard it carefully, and their brightest people work oo it. But as offshoring becomes increasingly commonplace, companies are moving up the value chain, using foreign workers in ways that make them a more integral part of the corporate identity.

Offshore R&D, page 16

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Talk of VoIP Regulation Vexes Users

IT managers fear higher costs, need for system changes

BY MATT HAMBLEN

Federal and state government officials are starting to weigh how to regulate voice-over-IP services, and some corporate users of the technology are steeling themselves for what they think will be inevitable price increases.

"You have to believe that if VoIP means the traditional phone system will lose volume, it's going to mean more taxes or fees on VoIP at some level," said Mike Foster, manager of technology development at Tower Travel Management Inc. in Oakbrook Terrace, Ill. "But for now, we'll ride the VoIP

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More Inside
Hospitals eye wireless IP phones

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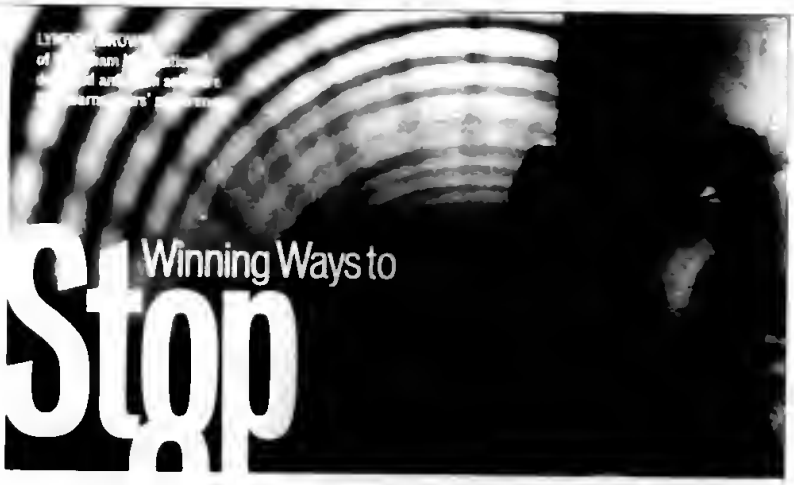
Winning Ways to
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Offshore R&D, page 16

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Missing the Big Picture?

SECURITY: In his speech at the RSA Conference last week, Bill Gates emphasized improvements to Microsoft products that address external threats. But he's ignoring the larger problem of insider malfeasance, writes columnist Peter H. Gregory. **QuickLink 45001**

Simple Is Sexy for Open-Source

DEVELOPMENT: The geeks are already onboard. But to sell the mainstream on open-source, we need simple, easy and productive software, says JT Smith, technology director at Web Den Interactive. **QuickLink 45002**

Succeed After a Layoff

CAREERS: Even forced change can lead to positive developments for those open to discovering them. A senior IT executive tells the story of the aftermath of his job loss and the new life he's leading. **QuickLink 44950**

Need for Speed, Part 2

MACINTOSH: Last week, online news editor Ken Mingis described how he opened up his almost-new PowerBook 17 to install a faster hard drive. This week, find out if the change made a difference. **QuickLink 44970**

Install a Wireless Net – for Free!

MOBILE/WIRELESS: A frugal — OK, cheap — *Computerworld* editor tackles this home project and lives to tell the tale. **QuickLink 44925**

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Knowledge Centers **QuickLink a2570**

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AT DEADLINE

VeriSign Sues ICANN

VeriSign Inc. filed a lawsuit accusing the Internet Corporation for Assigned Names and Numbers of overstepping its authority and improperly attempting to regulate VeriSign's domain name services business. Mountain View, Calif.-based VeriSign is seeking unspecified damages and an injunction compelling ICANN to adhere to its contract with the company. ICANN didn't have an immediate comment on the suit.

Japanese Officials Investigate Microsoft

Microsoft Corp. confirmed that eight officials from Japan's Fair Trade Commission conducted an investigation at the company's Japanese offices as part of an ongoing probe of possible anticompetitive practices. The officials examined provisions in the license contracts that Microsoft Japan offers to PC makers, a company spokeswoman said. "We are confident that our practices are consistent with Japanese law," she added.

Microsoft Reaudits Leaked Source Code

In other Microsoft news, the company said it's reviewing the Windows 2000 and NT 4.0 source code that was leaked onto the Internet last month, to determine whether the incident poses any security risks for users. The code was checked prior to its commercial release but is being looked at again with more modern security-review tools, Microsoft said.

Short Takes

GEAC COMPUTER CORP. said it has signed a deal to outsource some of its business application development and testing work to a company in India during peak demand periods. . . . Seattle-based CRAY INC. said it's buying OCTIGABAY SYSTEMS CORP., a Burnaby, British Columbia-based maker of technical computers.

Big Companies Turn to Packaged Sarb-Ox Apps

Many take off-the-shelf approach, citing cost, time and IT resource constraints

BY THOMAS HOFFMAN

MOST LARGE companies that have begun addressing the first leg of Sarbanes-Oxley compliance are buying packaged software to document and track their financial controls instead of developing such systems in-house, corporate executives and analysts said last week.

Several IT and business managers who are addressing the Section 404 requirements of the Sarbanes-Oxley Act said their buy-vs.-build assessments showed that it would be faster and less expensive to buy off-the-shelf software and have the vendor customize and maintain it for them.

For instance, Regis Corp., a Minneapolis-based company that operates 9,700 hair salons in North America and Europe, spent about $100,000 to buy Movaris Inc.'s Certainty compliance tool. Regis offtcials briefly considered developing a Section 404 tracking system internally, said Kyle Didier, the company's vice president of finance. "But we decided the risks would be greater and the costs would be twice as much, if not more," he said.

Didier added that the company's decision to use the Movaris software to test its financial controls was also based on IT staffing constraints that would have forced executives to reallocate resources away from projects that are more important from a business standpoint.

Juniper Networks Inc. in Sunnyvale, Calif., also opted for the Movaris tool. "I think it probably would have been more expensive to build our own system in the long run," said Juniper CIO Kim Perdikou, although she didn't disclose specific cost estimates. "Our business is building routers, not applications. If we can buy it, we'll do that first."

John Hagerty, an analyst at AMR Researeh Inc., said it costs $100,000 to $150,000 on average to license a Sectioo 404 compliaoce-tracking tool. The cost of internally developing a comparable system would amount to a few huodred thousand dollars or more at most companies with annual revenues that exceed $1 billion, he said.

That estimate doesn't include the cost of maintaining homegrown technology. "At the end of the day, you have to maintain it yourself as opposed to having a vendor who will continue to support it with any new compliance or regulatory support that might be needed," Hagerty said.

Ready or Not

Some companies have found that financial software they already have in place is up to the task of meeting Section 404 compliance requirements.

Regal Entertainment Group, a Knoxville, Tenn.-based operator of movie theatres, uses an existing installatioo of Global Software Inc.'s Spreadsheet Server application and other off-the-shelf software to document its internal cootrols. "I don't have any fear that I'm pulling old data or data that's been manipulated somewhere," said David Ownby, Regal's senior vice president of finance.

"Building a compliance-tracking system from scratch is likely to be more expensive than combining a few existing tools that firms often already own — like an enterprise content management system and a business intelligence tool," said Jeonifer Chew, an analyst at Forrester Research Inc.

That reasoning played into Emcor Group Inc.'s decision to develop a Sarbanes-Oxley compliance application oo top of an existing Notes system. Executives at Norwalk, Conn.-based Emcor have said that strategy will keep the company's costs below the six-figure levels cited by AMR's Hagerty [QuickLink 44432].

Hagerty noted that in addition to dealing with cost issues, many companies are still struggling to formulate Sarbanes-Oxley compliance strategies — a factor that also encourages them to buy instead of build. "The problem that most users face is they don't know what they don't know, so they look to a packaged vendor to give them a framework to work with," Hagerty said. 45072

SEC Extension Relieves Pressure for Some Users

The Securities and Exchange Commission gave some companies a little more breathing room for their Sarbanes-Oxley compliance efforts last week.

The SEC announced that companies with a market capitalization of $75 million or greater won't have to document their internal financial-reporting controls and attest to the effectiveness of the procedures until their first fiscal year that ends on or after Nov. 15. The original deadline for Section 404 compliance had been for fiscal years that ended on June 15 or later.

That means companies with fiscal years ending on June 30 or Sept. 30 have been given one-year extensions on their compliance efforts, said Brian Goldstein, a partner at law firm Testa, Hurwitz & Thibeault LLP in Boston.

The deadline delay "definitely removed the sense of urgency" for many companies to complete their Section 404 readiness efforts, said Forrester Research analyst Jennifer Chew. "Many firms will likely continue to rely on manual processes and consultants in an effort to delay any capital expenditures," Chew added.

But for companies that operate on a calendar-year basis, the extension "doesn't buy them any more time," said Michael Duffy, president and CEO of software vendor OpenPages Inc.

Smaller companies now have to comply in fiscal years that end on or after July 15, 2005 — a switch from the original deadline of April 15, 2005.

— *Thomas Hoffman*

"Our business is building routers, not applications. If we can buy it, we'll do that first."

KIM PERDIKOU, CIO
JUNIPER NETWORKS INC

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For full coverage of Sarbanes-Oxley IT issues, go to our Web site

QuickLink a3250
www.computerworld.com

DOJ Files Suit to Block Oracle's Bid for PeopleSoft

PeopleSoft users applaud antitrust move; Oracle plots its strategy for fighting back

BY MARC L. SONGINI AND STACY COWLEY

The U.S. Department of Justice last week filed a civil antitrust lawsuit in an effort to block Oracle Corp.'s $9.4 billion takeover bid for business applications rival PeopleSoft Inc., a move that buoyed PeopleSoft users who oppose the hostile offer.

DOJ officials said an Oracle/PeopleSoft merger would eliminate competition between two of the top vendors of finance and human resources software, resulting in higher prices and fewer choices for users, as well as reduced innovation. They added that Oracle, PeopleSoft and SAP AG are the only vendors with enterprise-class applications that can meet the needs of large companies and government agencies.

"I think the decision here was very clear," Assistant Attorney General R. Hewitt Pate said Thursday during a press conference. "Going from three to two companies in this market is a competitive problem that needed to be stopped. Under any traditional merger analysis, this is an anticompetitive deal."

Jim Prevo, CIO at PeopleSoft user Green Mountain Coffee Roasters Inc. in Waterbury, Vt., said he was pleased by the DOJ's move and hopes that the agency prevails in the case. "Oracle's hostile bid represents nothing but bad news for PeopleSoft customers," Prevo said.

"I look forward to PeopleSoft being able to dedicate their time and money to delivering additional value to customers," said William Gabby, North American operations manager at Cargill Inc.'s Global Financial Solutions unit in Minnetonka, Minn.

Oracle isn't giving up, though. In response to the DOJ's suit, the software vendor did drop its plan to try to take control of PeopleSoft's board at the latter company's annual meeting on March 25. But Oracle claimed that the DOJ's case against the takeover bid "is without basis in fact or in law" and said that it will "vigorously challenge" the suit.

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In a filing with the Securities and Exchange Commission earlier last week, Oracle said it plans to draw parallels to the DOJ's 2001 attempt to block SunGard Data Systems Inc.'s acquisition of Comdisco Inc.'s disaster recovery business. The DOJ also sued to prevent that deal, saying it would reduce the disaster recovery market from three major vendors to two. But a federal judge rejected the DOJ's arguments and allowed the acquisition to proceed.

Making a Case

But Pate said the DOJ is confident that it has ample data to back up its antitrust claims. "This is a case that has its own facts and its own evidence that we're going to present," he said in response to a question about how Oracle's bid to acquire PeopleSoft compares with the deal between SunGard and Comdisco. "I think the result is going to be clearly in favor of blocking this transaction."

Seven state attorneys general are joining the DOJ in the suit, which was filed in U.S. District Court in San Francisco. The DOJ took action two weeks after its staff recommended that the agency try to stop Oracle [QuickLink 44758].

Craig Conway, PeopleSoft's president and CEO, called on Oracle to abandon its 9-month-old takeover bid, saying in a statement that "the antitrust day of reckoning has arrived."

But Kyle Lambert, vice president of information solutions at Washington-based hops grower John I. Haas Inc., feels differently. "It would be safe to say that I'm disappointed with the decision," said Lambert, an Oracle user. **45070**

Cowley writes for the IDG News Service.

FULL COVERAGE

For more on Oracle's bid to buy PeopleSoft, go to our special coverage page

QuickLink a3320 www.computerworld.com

Target Issues RFID Mandate to Suppliers

BY CAROL SLIWA

The top suppliers of consumer goods may have to start opening their wallets a lot wider to accommodate the mandates retailers are asking them to meet with respect to RFID tags.

Minneapolis-based Target Corp. confirmed last week that it will expect its top "vendor partners" to apply radio frequency identification tags to all pallets and cases they ship to unspecified "select" regional distribution centers, beginning next spring. All vendors will be expected to comply by the spring of 2007, according to a company spokeswoman.

Industry analysts said they expect more retailers to issue RFID mandates in the coming months. Wal-Mart Stores Inc. started the trend last year, asking its top 100 suppliers to begin tagging pallets and cases by the start of 2005 so it can better track goods through its supply chain [QuickLink 42676]. Germany-based Metro Group and U.K.-based Tesco PLC followed suit, as did the U.S. Department of Defense.

Target, however, is more tight-lipped about its plans. The company declined to provide additional information about its mandate and refused requests for an interview.

Target will require RFID tags on shipments to select distribution centers

Kara Romanow, an analyst at Boston-based AMR Research Inc., said she expects most retailers to adopt the technology within six to 12 months of Wal-Mart in hopes that they won't fall too far behind.

But for suppliers, the mandates can be costly with very few near-term benefits, said Christine Overby, an analyst at Forrester Research Inc. She said the Cambridge, Mass.-based research firm studied a number of the proposed benefits, such as shrinkage reduction, automated receipt of goods, truckyard management and more accurate shipping. But the reality is that today's technology makes it unlikely that suppliers will gain many of those benefits over the next 12 to 24 months, Overby said. "Every mandate broadens the implementation plans for suppliers, and those plans, even as they're currently defined, are nearly improbable today," she said.

MORE ONLINE

Get additional information about RFID on our Web site

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Overby advised suppliers to have frank discussions with their retail customers about what they're doing, what they're learning and what's not working, so they can reshape the mandates to make them more attainable.

Jeff Woods, an analyst at Stamford, Conn.-based Gartner Inc., said an RFID printer and the software to drive it may cost $100,000 to $200,000, but tags and labor costs can run into the millions. And so far, suppliers are finding no business case other than to satisfy Wal-Mart, he said.

"They are pessimistic and upset at this point," Woods said. "They just see it as a huge cost. So the effort is really just to minimize the cost."

Woods said the new Target mandate won't necessarily require more effort from suppliers, but it will present a huge additional burden in terms of cost. He predicted that some manufacturers will say no to Wal-Mart, but they won't publicly acknowledge that position for fear of upsetting such an important customer. **45062**

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Oracle plots its strategy for fighting back

BY MARC L. SONGINI
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Making a Case

Target Issues RFID Mandate to Suppliers

BY CAROL SLIWA

STARTING NEXT SPRING, Target will require RFID tags on shipments to select distribution centers.

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FULL COVERAGE

Sun Adds ID Tools For Windows . . .

Sun Microsystems Inc. announced identity management software for Windows systems. Sun Identity Manager for Microsoft is a new version of a tool set that Sun acquired when it bought Waveset Technologies Inc. in December. The software supports Windows 2000 and 2003, SQL Server, Exchange and other Microsoft Corp. products.

. . . And Says It Will Still Sell Secure OS

Sun also said it will continue to offer its Trusted Solaris operating system despite plans to add some of the software's advanced security features to the standard version of Solaris. In addition, the company said Patricia Sueltz has resigned as executive vice president of its IT services unit to become head of marketing, technology and systems at CRM vendor Salesforce.com Inc.

Microsoft, Sun Ink Deals With VeriSign

VeriSign Inc. announced IT security deals with Microsoft and Sun. The Mountain View, Calif.-based company said it's developing end-user authentication services for Windows Server 2003, using Microsoft protocols. VeriSign also said it will take over responsibility for securing Sun's internal networks.

CIO Power Is Fading Along With . . .

client/server technology, claims Steve Savignano. **Years ago, when client/server was king,** says the CEO of Ketera Technologies Inc. in Santa Clara, Calif., it made sense to put a company's intellectual property (i.e., custom code and configurations) into application development. And where a company puts its "IP," as business folks dub intellectual property, therein lies corporate power, justifying the C-level title and a fancy schmancy office. With the arrival of software as a service, the breadth of IP under a CIO's wing is shrinking. "The power is returning to the business units," Savignano argues. No longer are sales, human resources, accounting and procurement executives dependent on the CIO's whims. Instead, they can **rent fully functional apps online** without giving the CIO a thought. "Instead of deciding what they should outsource," Savignano advises, "CIOs should be looking at what they need to own by where they can add IP. If they can't, outsource it." And just so you know, in April, Ketera will be adding a service procurement module to its online spend management software so you can better manage those software-as-a-service contracts.

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Six Internet service providers are already using the combined product and service. (You rent the router with a service contract, much like you would a cable modem. Although at $20,000 a year for the enterprise edition, it's a tad pricier.) And sometime in the second quarter, Turn Tide will add a suite that won't just let service providers stop spam from passing through, it will stop spam originating from their customers. Gary Steele, CEO of Proofpoint Inc. in Cupertino, Calif., argues that a single-minded effort to fight spam is shortsighted. You need virus protection and content control with antispam tactics in any message management strategy, **something you can't do in Layer 3.** That's why this week his company is announcing a deal with San Mateo, Calif.-based Secure Data in Motion Inc. (also known as Sigaba) to include the latter's e-mail encryption capability in the Proofpoint Protection Server. Legitimate e-mail marketers **(that's not necessarily an oxymoron)** aren't displeased with Microsoft Corp.'s Caller ID technology, says Margaret Olson, chief technology officer for the Email Service Provider Coalition. But they still want to test it to make sure it won't hamper their efforts to deliver marketing missives to your mail client. The ESPC begins testing at the end of this month and expects to have its results by summer, Olson says.

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Web Site Whirlwind

Cyclone Commerce Inc. in Scottsdale, Ariz., today unveils its Cyclone Interchange 5.0 Advanced Server for business-to-business operations. The company says new clustering features add scalability to the software, and the upgrade increases the number of preset alerts for event management for such things as document workflow. Pricing starts at $10,000

Novell Posts Profit After Five Losses

Novell Inc. ended a string of five quarterly losses and returned to profitability in its first quarter, which ended Jan. 31. Novell CEO Jack Messman said he was encouraged by the results "in what remains a challenging IT business environment."

BY THE NUMBERS	REVENUE	PROFIT
Q1 FY04		
Q1 FY03		

Delphi Cuts 148 IT Jobs, Sends 20 Abroad

BY LINDA ROSENCRANCE

Auto parts giant Delphi Corp. last week said it's cutting 148 IT jobs — and sending 20 of those jobs offshore — as part of a consolidation and restructuring of its IT organization in the U.S.

About 30 of the IT jobs being cut will be outsourced to Mumbai, India-based Tata Group, according to company spokesman Dave Bodkin. Twenty of those jobs will be located in India and Hungary, and 10 will be in the U.S., Bodkin said.

Most of the 148 jobs are in Michigan, but a few are in Indiana, New York and Ohio, he said. The cuts will be made to an IT workforce of 1,000 employees, half of whom are in the U.S.

The job cuts are part of a restructuring that the Troy, Mich.-based automotive parts maker announced in October, when it said it would cut 8,500 jobs — 3,000 positions outside the U.S., 5,000 hourly jobs in the U.S. and 500 salaried jobs in the U.S., Bodkin said. Delphi has a total of 186,000 employees worldwide.

The company on Feb. 24 "told the affected employees that we were going to restructure and consolidate our U.S. IT organization," said Bodkin. "So we're hard at work to redeploy the affected employees to other positions."

Bodkin said Delphi had identified slightly more than 70 open positions within the company for those people to consider. "We held a job fair for them, and we have been approached by some of our vendors who have expressed interest in some of our employees," he said. **45052**

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BRIEFS

Sun Adds ID Tools For Windows . . .

Sun Microsystems Inc. announced identity management software for Windows systems. Sun Identity Manager for Microsoft is a new version of a tool set that Sun acquired when it bought Waveset Technologies Inc. in December. The software supports Windows 2000 and 2003, SQL Server, Exchange and other Microsoft Corp. products.

. . . And Says It Will Still Sell Secure OS

Sun also said it will continue to offer its Trusted Solaris operating system despite plans to add some of the software's advanced security features to the standard version of Solaris. In addition, the company said Patricia Sueltz has resigned as executive vice president of its IT services unit to become head of marketing, technology and systems at CRM vendor Salesforce.com Inc.

Microsoft, Sun Ink Deals With VeriSign

VeriSign Inc. announced IT security deals with Microsoft and Sun. The Mountain View, Calif.-based company said it's developing end-user authentication services for Windows Server 2003, using Microsoft protocols. VeriSign also said it will take over responsibility for securing Sun's internal networks.

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BY THE NUMBERS

Q1 FY04	$207.1M	$10.1M
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MARK HALL ▪ ON THE MARK

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Users Weigh Merits Of 'Windows Lite'

Microsoft's 'tailored and limited' offering in Thailand spurs discussion

BY CAROL SLIWA

MICROSOFT CORP. said the "tailored and limited" language-specific version of Windows XP Home edition that it plans to offer in Thailand is currently the only one of its kind.

But what's happening in Southeast Asia has been catching the attention of analysts and PC users in other parts of the world. Interest started to develop last year, when Microsoft began offering a Thai-language version of Windows XP Home and Office Standard Edition for about $38 to people who had ordered budget-priced Linux-based PCs under a Thai government program.

"It seems like the first solid, direct 'give the customers what they want' from Microsoft," said Bob Crownhart, director of IT infrastructure at Premera Blue Cross in Mountlake Terrace, Wash.

"We run 600 store registers on Windows. Any lighter Windows OS would be a financial and operational blessing," said Tom Pane, a vice president of technology at New York-based AnnTaylor Stores Corp.

Beyond Thailand

Gartner Inc. predicted that the Thai government's drive for low-cost PCs will have ramifications beyond Thailand. The Stamford, Conn.-based research firm said Microsoft will likely provide more competitive pricing globally, with at least a 50% price reduction in emerging markets. Several other governments contacted Gartner expressing interest in crafting programs similar to the Thai project, the firm said.

Microsoft said it was unable to provide a spokesman for comment. In a prepared response, Matt Pilla, a senior product manager, said the Thai edition of the Windows XP that's under development is geared toward first-time computer users.

> [Office is] sort of the SUV of common software. It's big. It's clunky.... I think I'd rather have a sports car.
>
> **ZEKE DUGE, CIO, Smart & Final Stores Corp.**

Pilla didn't address plans for other countries, stating only that "we are committed to continuing to work with governments all over the world on programs and initiatives that address their specific challenges and meet the needs of their consumers."

One IT manager at a financial services company who asked not to be named said he doesn't like the idea that his company "is subsidizing a foreign country's initiative."

The IT manager said his company would consider lighter versions of both Windows and Office with functionality specifically for business use, since Microsoft has blended "so many nonbusiness applications/services into the product that it creates too many support issues."

The vast majority of 20 North America-based corporate users randomly polled by *Computerworld* over the past two weeks said they think Windows and Office are overpriced. Their answers varied widely when asked what a more appropriate price would be. Responses were in the range of $30 to $150 for Windows and $75 to $200 for Office.

But users were mixed on whether they would like the option of having lighter versions of Windows and Office. And there was no consensus among those who favored a lighter option on the functionality they would like to see removed.

"I'd much rather see a stripped-down Office than XP. There are more features and functions in the base Office products than anyone can possibly use, yet we still carry all the overhead, cost and space for the full-featured products," said Charles Emery, senior vice president and CIO at Horizon Blue Cross Blue Shield of New Jersey in Newark.

"It's gotten out of control. It's sort of the SUV of common software," said Zeke Duge, CIO at Smart & Final Stores Corp. in Commerce, Calif. "It's big. It's clunky. It uses a lot of resources. I think I'd rather have a sports car."

Bill Lewkowski, CIO at Metropolitan Health Corp. in Grand Rapids, Mich., said his company isn't taking advantage of all of the Office features, "nor do we see reasons for a lot of what it offers."

"They keep coming up with solutions that we're still trying to find problems for," Lewkowski said. He said he's concerned about Microsoft's tendency to link productivity capabilities in its desktop software with its server-based products.

"All of that may have its place and value, but it's too expensive," he said. "Eighty percent of our effort should be on the core applications that run our business, and Microsoft is not at the core of the applications that run our business."

Turning to a lighter version of Windows or Office might present challenges for companies that want to maintain a consistent desktop, since it would likely not be appropriate for all users.

"I would be skeptical that a 'Windows lite' would be practical in larger organizations," said Brad Jacobson, an operating systems engineer at Wells Fargo Financial Inc. in Des Moines. "Standardization is almost essential, and any loss of functionality would most likely impact various users and requirements." **45031**

RSA SHOW

Crypto experts talk e-voting, digital rights management.

QuickLink 45016
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Users Wary About Open-Source Alternatives to Windows OS

Even though plenty of corporate IT managers say they think Windows and Office are overpriced, that doesn't mean they're flocking to check out open-source alternatives.

Several cited the lack of support for Linux among independent software vendors as a major concern. Some said they're worried about product support and potential retraining costs for their staffs.

"If I had the guts, I'd do Linux, because I think it is a viable alternative and I think you can save 30% on Linux," said Zeke Duge, CIO at Smart & Final Stores. "But I can't afford to be wrong, and I'm really afraid of that. I think if I was a Young Turk on the way up, I'd be really pushing it. But as a fat, old, bald-headed guy, I'm more cautious."

David Curran, manager of IT at CE Franklin Ltd. in Calgary, Alberta, said he doesn't believe in the open-source model of support. And his company's ERP system, PeopleSoft Inc.'s EnterpriseOne, doesn't run on Linux.

Curran added that his company looked into Sun Microsystems Inc.'s StarOffice productivity suite but rejected it because StarOffice had compatibility problems with both EnterpriseOne and Microsoft Office. He said retraining costs and the lack of training available in the Calgary area also were factors. "Our users are not technically literate," Curran said. "This type of change would hurt them too much."

Jon Dell'Antonia, vice president of IT at OshKosh B'Gosh Inc., said his company tried the Linux/StarOffice combination last year and encountered functionality and compatibility problems. "The spreadsheet in StarOffice didn't look the same," he said. "We had trouble opening files."

But Dell'Antonia said OshKosh B'Gosh may test a newer version and, if it finds that those issues have been addressed, it will consider StarOffice because of the high cost of maintenance agreements for Microsoft desktop software.

The director of technical services for an online retailer who asked not to be identified said he's waiting to see how The SCO Group Inc.'s lawsuit regarding Linux pans out. He said he's also waiting for updated information about how Novell Inc. will incorporate its newly acquired SUSE Linux AG technology into its product and support strategy.

Bill Lewkowski, CIO at Metropolitan Health, said his organization has 400 applications, and since most don't run on Linux, he can't move to Linux. But as a Novell customer, he's keeping a watchful eye on the operating system.

Lewkowski said the organization is also considering the option of using software from Citrix Systems Inc. to deliver applications via browsers to PCs running Linux. But he said he probably wouldn't be considering alternatives if Microsoft had given the teaching hospital educational pricing, as other vendors do.

– *Carol Sliwa*

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Microsoft Shows Off New Security Features

Gates unveils protection technologies, antispam initiative at RSA Conference

BY CAROL SLIWA

MICROSOFT CORP gave every indication that it's keeping security on the front burner, as Chairman Bill Gates made the trip to last week's RSA Conference in San Francisco to preview upcoming features in Windows, new protection technologies and an antispam initiative.

Gates introduced the first public demonstration of new security features due in the first half of the year with Service Pack 2 for Windows XP. One prominent update will be the newly enhanced and renamed Windows Firewall, formerly called the Internet Connection Firewall, which will be enabled by default rather than having to be set manually by the user.

Another new feature, the Windows Security Center, will let users check the status of firewalls, automatic updates and antivirus protection. If a problem is discovered, the user will receive a notification with recommended fixes.

To combat spam, Microsoft is touting its Coordinated Spam Reduction Initiative, which includes technical specifications for establishing Caller ID-like functionality for e-mail. The technology would enable a recipient to ensure that a message came from the identified domain.

Gates said Microsoft has royalty-free patents on the technology and is talking with other Internet service providers and e-mail providers about using it. "It uses the DNS to do this, so it's piggybacking an infrastructure that's there," he said.

Microsoft also plans to deliver Exchange Edge Services to enable users to better protect their e-mail systems from junk e-mail and viruses, as well as improve the efficiency of handling and routing Internet e-mail. Those goals will be achieved through an enhancement to the SMTP relay implementation in Exchange 2003, according to Microsoft.

Another security-related enhancement Microsoft demonstrated was active protection technology. John Pescatore, an analyst at Stamford, Conn.-based Gartner Inc., said the technology will provide behavioral protection for desktops and servers, similar to technology offered by Cisco Systems Inc. and Network Associates Inc.

BILL GATES at the RSA Conference

Zachary Gutt, a technical product manager in Microsoft's security business unit, said the active protection technology will make computers resilient against worms and viruses by preventing and containing attacks. The system does that by recognizing behavior that is out of the ordinary and blocking it.

For example, Gutt said, the Blaster worm caused the remote procedure call service to open a back door and download malicious code onto a machine. But with active protection technology, the behavior would have been recognized as out of the ordinary for the RPC service and blocked, he said.

Another key piece of active protection technology can automatically raise and lower the security levels of a computer based on changes in states, Gutt said. Known as "dynamic system protection," the technology can detect that a patch is missing and inform the firewall component to block any suspicious traffic, he said.

Pescatore predicted that active protection technology will be emerge in a future feature pack.

But Jon Murchinson, a Microsoft product manager, said the company hasn't determined how the technology will be delivered.

Gates said the active protection technology and Exchange services are due next year. **45064**

Gates on Security

- Security enhancements due in Windows XP Service Pack 2, including Windows Firewall and Windows Security Center
- Coordinated Spam Reduction Initiative and technical specifications for establishing Caller ID-like functionality for e-mail to prevent domain spoofing
- Exchange Edge Services to protect users' systems from viruses and junk e-mail

Corrections

The director of global network services at Extreme Networks Inc. was misidentified in the Feb. 23 column "Don't Ignore IP VPN Security." His name is Carlos Sanchez.

In last week's cover story on instant messaging, the location provided for St. Croix Casino and Hotel is incorrect. The company is located in Turtle Lake, Wis.

Hyperion Upgrades Data Analysis Tools, Blends in Brio Technology

Rollout adds new modeling features, user dashboards

BY MARC L. SONGINI

Hyperion Solutions Corp. is rolling out a revamped line of business intelligence software that's designed to make it easier for users to prepare corporate performance scorecards and extend the use of analytical tools via dashboard-style interfaces.

Sunnyvale, Calif.-based Hyperion last week announced Performance Suite 8.2, an upgraded set of data analysis applications that includes dashboard technology Hyperion inherited as part of its October buyout of Brio Software Inc. The company is also adding a new version of Essbase, its flagship online analytical processing (OLAP) software.

Essbase Version 7 includes predictive analysis capabilities that let users model business performance, and it can automatically issue alerts if predefined events occur, such as a spike in demand or an increase in the cost of raw materials, said Nazhin Zarghamee, chief marketing officer at Hyperion.

Also new is support for XML for Analysis, a standard OLAP language designed to deliver universal data access via the Web, and the MDX Query Language, which is used to write complex queries. Support for Unicode technology was added as well, so developers can write reusable queries that will run on a variety of systems, Zarghamee said.

Performance Suite 8.2 can cull data from various systems and distribute it to end users via dashboards, he added. The software also includes tools that support drag-and-drop data manipulation and dashboard personalization.

Another feature that lets customers do more complex auditing of how the data analysis tools are being used is appealing to administrators at the U.S. Army Accessions Command, said Thomas Gielow, a contract database architect at the military unit.

OTHER NEW FEATURES

- Support for Red Hat Enterprise Linux across all of Hyperion's products
- Tighter integration of Essbase with IBM's WebSphere and DB2 software
- Web services support to simplify links between Performance Suite and corporate portals

The USAAC is working to migrate existing dashboards built around the older Brio 6.6 technology to Performance Suite 8.2 and hopes to be online with the new release by May, Gielow said. He added that the upgraded software should allow administrators at the unit, which supports army training and recruiting operations, to more easily access data without the assistance of IT staffers.

In addition, the tools will let the administrators keep track of which end users access documents and what kind of analysis routines they run.

Like rival Business Objects SA, which bought Crystal Decisions Inc. in December [QuickLink 43946], Hyperion has to hurry to fuse its two product lines, said AMR Research Inc. analyst John Hagerty. He also noted that Hyperion is again focusing on Essbase, which had taken a back seat to its financial planning and management applications during the past 18 months. **45034**

2:07PM LOG IN TO HOT SPOT 2:08PM NETWORK SECURES THIN AIR 2:09PM TRANSMIT FILES THROUGH THIN AIR 2:25PM UPDATE PURCHASE ORDER 2:35PM EXPENSE COFFEE ORDER

The more freedom you give employees to work anywhere, the more you can achieve. That's good. But, at the same time, the more you expose yourself to intruders and worms. That's not so good. How far can a network travel to protect your office? Now, the answer is everywhere. Cisco networks, with integrated wireless security, protect mobile workers who constantly move outside the safety of the corporate network. So information is secured. No matter where it exists. To learn more about how Cisco can help plan, design and implement your network security, visit cisco.com/securitynow. **SELF-DEFENDING NETWORKS PROTECT AGAINST HUMAN NATURE.**

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Hospitals Eye Wider Use Of Wireless IP Phones

FDA bar-code rule provides impetus for more WLANs

BY BOB BREWIN
ORLANDO

A RULING LAST week by the U.S. Food and Drug Administration that requires the use of bar codes on drugs in hospitals may also help spur the use of IP-based wireless phones by health care providers, according to IT managers and analysts.

The FDA's ruling, which coincided with the Healthcare Information and Management Systems Society's annual meeting here, is expected to prod hospitals to install wireless LANs to support bar code readers that will match identification data on patient wristbands with the bar codes on packaged doses of drugs.

John Hummel, CIO at Sutter Health in Sacramento, said in a phone interview that the WLANs could also be used to support calls from wireless IP phones and other voice-over-IP devices.

Sutter plans to equip all 26 of its hospitals with extensive WLANs, and Hummel said the not-for-profit health care provider has already started testing wireless IP phones made by Cisco Systems Inc. He added that Sutter is also testing an IP-based, hands-free wireless voice communicator from Vocera Communications Inc.

SUTTER HEALTH is testing Cisco's wireless IP phones for potential use within hospitals.

Indianapolis-based Community Health Network, which operates five major hospitals and numerous other medical facilities, has deployed about 100 of SpectraLink Corp.'s WLAN IP phones, said Chris Cerny, the health care company's manager of enterprise networking.

Among other uses, the phones tie into the nurse call system at Community Health's Indiana Heart Hospital, which doesn't have central nursing stations. When patients press the call buttons in their rooms, the calls are routed to SpectraLink phones that the nurses carry, Cerny said from Indianapolis.

Cerny said Community Health has found the voice quality of calls made on the SpectraLink phones to be equal to that of calls made on standard phones. But she added that the company did encounter some problems with the installation of the wireless VoIP system.

Ensuring wireless data coverage typically requires an abundance of access points, but Cerny said Community Health discovered that it had installed too many for voice communications. When the SpectraLink phones roamed from one access point to another, they often took too long to authenticate and disconnected before the process was completed, she said. Cerny and her staff reduced the number of access points, which solved the problem.

Wireless IP phones are likely to be a niche product for users in vertical industries like health care and retail, predicted Chris Kozup, a Meta Group Inc. analyst. But within those markets, he expects use of the devices to increase.

In addition, new classes of IP-enabled phones are emerging. For example, Nokia Corp. last week introduced a dual-band cell phone that can function as an IP phone when it senses a wireless LAN.

Rick Copple, Community Health's chief technology officer for information systems, said such phones might be able to help the company reduce airtime costs when cell phone users are within range of its WLANs. **45067**

MORE NEWS ONLINE

Hospitals may have to pay a total of $7 billion to install bar-code technology
QuickLink 45086

A majority of health care IT managers plan to install electronic medical records systems, according to a HIMSS survey
QuickLink 44997
www.computerworld.com

Continued from page 1

VoIP Regs

wave as long as we can."

Tower, which provides corporate travel services, has installed IP-based voice systems for each of its 65 employees. The company has 20 travel agents in home or small offices who make calls via IP telephony "at greatly reduced costs," Foster said. In one case, the monthly service fee dropped from $2,000 to $100.

VoIP service now is largely free of regulation, and that has helped to keep costs down for users like Foster. But in recent weeks, the Federal Communications Commission and the California Public Utilities Commission each signaled their intent to begin proceedings that could subject VoIP to many of the same fees and access charges imposed on regular telephone networks.

FCC Chairman Michael Powell last week said at a U.S. Senate hearing that the commission should use a "light touch" in regulating VoIP. Nonetheless, AT&T Corp. and MCI announced that they had joined the Voice on the Net Coalition, a group of 12 companies that plans to lobby for regulatory restraint.

And although the debate over regulation of VoIP has primarily focused on the potential impact on telecommunications carriers and home users, corporate customers are starting to wake up to the possibility that they could also be affected. The regulatory issue is expected to be a key topic of discussion at this week's VoiceCon 2004 conference in Orlando, said Fred Knight, general manager of *Business Communications Review*, the Westmont, Ill.-based magazine that organizes the show.

The fact that many companies use VoIP on private intranets doesn't exempt corporate systems from any future regulations or local access charges and fees, said Rick Whitt, senior director of global policy and planning at MCI.

Colleen Boothby, an attorney at Levine, Blaszak, Block & Boothby LLP in Washington, represents large businesses before the FCC. She agreed that regulators will be looking to reach into the deep pockets of companies. "Every time regulations like this are considered, enterprises have a big target painted on their chests," Boothby said.

But it's nearly impossible to assess how great the added costs could be at this point, Boothby added. "Bottom-line, with VoIP regulations, there are more questions than answers right now," she said.

Not all VoIP users are opposed to some level of regulation. VCustomer Corp. in Kirkland, Wash., uses VoIP to support 3,400 call center agents who are based in India, and CEO Sanjay Kumar said he thinks regulations would improve the technology's quality of service. "Government regulation is not bad for business; it's only bad for VoIP providers," Kumar said.

But other users said they foresee not only higher rates for VoIP services, but also the possibility that they will need to design their systems to measure the amount of VoIP traffic for tax purposes.

"Basically, regulators are talking about imposing voice tariffs on data lines," said Daniel Madison, a data communications engineer at Great River Energy, an Elk River, Minn.-based electric utility. "That doesn't make a lot of sense. It's like taxing the Internet, but the government is going to get its slice of pie no matter what you do."

Great River has a VoIP pilot project under way with four end users, and Madison is using software from NetScout Systems Inc. to manage the VoIP traffic. He said he could also use the software to measure the traffic if it becomes necessary to do so.

Eric Paulek, an analyst at Gartner Inc., said the FCC should develop policies to prevent a patchwork of state regulations. "It might be a light touch, but the FCC has to touch it," Paulek said, adding that there will be too much confusion otherwise. **45040**

TECHNOLOGY DEBATE

User sessions at VoiceCon 2004 will focus on pure VoIP vs. mixed systems
QuickLink 45048
www.computerworld.com

Recent Regulatory Moves

FEBRUARY 11

- The California Public Utilities Commission votes unanimously to investigate a regulatory framework for Internet telephone services.

FEBRUARY 12

- At a Senate Commerce Committee hearing, FCC Chairman Michael Powell reiterates that the commission should use a light hand in regulating VoIP

FEBRUARY 24

- The FCC says it will seek comments on appropriate regulatory treatment of VoIP but adds that the technology should be subject to minimal regulation.

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BRIEFS

HP Agrees to Buy IT Services Firms

Hewlett-Packard Co. said it has agreed to buy German IT services firm Triaton GmbH as well as affiliated companies in the U.S. and France. HP is purchasing the services operations from Thyssen-Krupp AG, a steel maker in Germany, for an undisclosed price. Triaton has annual revenue of about $460 million and provides application, hosting and on-site support services.

AOL Makes Fix To Block ICQ Worm

America Online Inc. said it has updated its ICQ instant messaging servers to block further distribution of a worm that began attacking the systems of ICQ Pro users last Tuesday. The worm, dubbed Bizex, was activated through a message that directed recipients to a now-closed Web site called Jokeworld. AOL added that it's working to find a fix for users whose PCs were infected.

MCI, AT&T Settle Call-Routing Claims

WorldCom Inc. (now doing business as MCI) and AT&T Corp. said they have agreed to settle several legal claims against each other, including a lawsuit filed last September in which AT&T charged that MCI had fraudulently redirected millions of dollars' worth of call-routing fees. MCI responded to the suit by charging AT&T with contempt of court. Terms of the settlement deal weren't disclosed.

Short Takes

London-based SYMBIAN LTD released an upgrade of its Symbian OS smart phone operating system that can use a single processor to run applications and initiate calls. . . . White Plains, N.Y.-based OPTUM INC said it has acquired Charlotte, N.C.-based V3 SYSTEMS INC in a stock-swap transaction. Both companies develop supply chain execution software.

Continued from page 1

Offshore R&D

Silicon Valley venture capital firms are encouraging start-ups to send their product development work overseas, said Marc Hebert, a vice president at Sierra Atlantic Inc., a Fremont, Calif.-based outsourcing firm that specializes in R&D. While Google was explicit about talent rather than cost being the driver of its offshore move, most companies are equally keen to tap the lower wages, which enable them to hire more people to bring products to market faster.

Hebert said that although idea generation and funding are still coming from the U.S., more and more of the R&D work needed to actually bring a product to market is being done offshore. "That's the really interesting trend," he said.

What that means for the future of Silicon Valley and IT development in the U.S. is unclear. But while overseas firms are hiring, the IEEE-USA said last week that the 2003 U.S. jobless rate for computer scientists and systems analysts has reached an all-time high of 5.2%.

The Asia Connection

Although the number of R&D jobs that have moved to Asia doesn't yet approach the number of low-end IT jobs that have moved, such as those in programming, the gap is bound to narrow, said Bob Hayward, an Australia-based senior vice president at Gartner Inc.

"There's a certain amount of inevitability about it," Hayward said, noting that the highly skilled Asian workforce and the leading role taken by those countries in developing cutting-edge services and technologies, such as broadband Internet access and flat-panel technology, have attracted the attention of U.S. IT vendors.

Just in the past three to four years, U.S.-backed investments in Asian R&D operations have increased dramatically, Hayward said. He noted that those investments have soared while IT vendors, faced with a global slowdown in demand for their products, have held back investments in other areas.

Several of the largest U.S. IT vendors started building R&D centers in China in 1998. Intel Corp. and Microsoft Corp. have opened facilities in Beijing. Intel has 40 researchers; Microsoft has 200 Ph.D. candidate interns and 170 researchers.

Some governments provide economic incentives to attract U.S. companies to invest in R&D operations in their countries. In Taiwan, for example, foreign firms can deduct 35% of their R&D investments from the income tax owed by their profit-making operations.

"As the comfort level goes up and we are able to take advantage of having comparable quality for smaller prices, people will naturally migrate [offshore].

B. LEE JONES CIO, STRATEX NETWORKS INC

OPENING CEREMONY in 1998 of Microsoft Research Asia in Beijing

Still, some IT development work can be done only in the U.S., said Richard Brown, associate vice president of marketing at Via Technologies Inc. in Taipei, Taiwan. For example, the design and development of Via's PC chip-set products is done in Taiwan, but the company's CPU and graphics-chips products are designed by teams in the U.S., reflecting the dominance of the U.S. in those product areas, he said.

'Big Picture' Question

But the trend is clear. About half of the IT R&D done by Stratex Networks Inc. takes place overseas, some at its New Zealand subsidiary, and some in India. That has included development of a network configuratioo tool, said B. Lee Jones, vice president of IT and CIO at the San Jose-based company.

Jones has eight data centers to run on five continents and offices across 22 time zones. Like many U.S. IT executives, he wonders about the big picture: the long-term impact on the U.S. as more work is shifted offshore. But Jones said he believes the U.S. will remain dominant in IT.

Though he has some hesitancy about moving high-level work offshore, along with a desire to keep core development in the U.S., Jones said that "as the comfort level goes up and we are able to take advantage of having comparable quality for smaller prices, people will naturally migrate there." **45069**

Lemon is the IDG News Service correspondent in Taipei.

Anti-Offshore Groups Band Together

WASHINGTON

Groups hoping to slow the migration of skilled jobs to low-wage countries said last week that it will take a combination of actions affecting U.S. visa and trade policies to stem the flow of jobs overseas.

But even then, "you can't stop it altogether, nor are we saying that we should stop it altogether," said Sen. Christopher Dodd (D-Conn.), a leading opponent of offshore outsourcing. Dodd attended a gathering here last week to announce the formation of an organization to spearhead the attack against offshore outsourcing.

Major trade unions and grassroots organizations that have sprung up around the country to fight the offshoring of IT and manufacturing jobs said they had formed the Jobs and Trade Network. About 15 groups are involved, including the United Steelworkers of America, several AFL-CIO affiliates and the American Engineering Association.

"We're going to take our country back from the greedy and unpatriotic, unethical and shortsighted actions of multinational companies, big-box retailers and others," said Fred Tedesco, president of Pa-Ted Spring Co., a manufacturer in Bristol, Conn. Tedesco is one of the leaders of Mad in USA, an ad hoc group of people, companies, labor groups and chambers of commerce that oppose current trade policies.

The trend toward offshoring is "so overwhelming" that "some effort to try and put the brakes on it, to slow it down, consider what we are doing" is needed, Dodd said. He recently introduced the U.S. Workers Protection Act, which would prohibit the use of federal funds for offshore work. Last year, Dodd introduced legislation that would set restrictions on L-1 visas, which are used by companies to transfer overseas employees into jobs in the U.S. Critics say the visa program has become a vehicle for facilitating job losses.

– Patrick Thibodeau

TEN IMES

Office manager escapes clutches of desk

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"I thought I was imprisoned at my desk forever no hope of any release – but at last I'm free. No I can visit more suppliers, get better deals and wo whenever and however I want. Am I happy or an happy...," Mary enthused at her first taste of freedo Workers everywhere from CEOs to Account Manag are rejoicing today at thought of a real breakthroug their working lives. "Mo Connectivity from Nokia m I can make better use of waiting time at the airport," CEO, Don Baker, "which gives me more family when I get home." Even sales manager, John P was overjoyed as he realized his field sales team visit even more customers, now that they were securely access company data while on the "They can check emails from home, at the of ..." he said. "And best

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MARYFRAN JOHNSON

Watching Your Career

HAVE YOU HEARD that 77% of high-tech companies are planning to increase their U.S. hiring this year? Did you know that dot-com companies created only 2,000 new jobs in 2003?

Or that 106,000 new network systems jobs will be showing up over the next decade?

If none of that was news to you, then you probably don't need to check out our new Career Watch page (see page 40 and online at QuickLink 44803).

But if the resurging IT careers market has caught your eye, then take a look at Career Watch, which is appearing three times a month in our Management section. This special careers-focused page will feature a lineup of job-finding tips and tactics, research and statistics about what's happening in the IT market. Most important will be interviews with your colleagues about the best ways to advance your IT career.

We'll also pay special attention to the job categories that are most immune from outsourcing.

The idea behind creating a regular page devoted to IT career strategies grew out of an e-mail exchange with reader Dave Bigelow (proving yet again that our best ideas come from you). Dave mentioned that he'd just accepted a new job, about a month after being laid off. "Remind your readers to keep their skills up to date," he wrote. "It makes a big difference."

A software developer with skills in J2EE, Java, Oracle and Linux, Dave was gracious enough to serve as our first "How I got that job" interviewee for the debut Career Watch page in our Feb. 23 issue [QuickLink 44654]. He spoke frankly about the pay cut he took — from $110,000 into the $90k range ("nothing to complain about") — and offered valuable advice for fellow job seekers, such as:

- Take classes and put them on your résumé. (It shows you're keeping up.)
- Go to user group meetings. (Recruiters cruise for candidates there.)
- Expect prospective employers to "kick the tires" by hiring you on a contract basis. (It's also a good way to get to know a company from the inside.)

Devoting a regular page to career concerns also appeals to us because there are solid signs that the IT job market is beginning a real recovery.

In a recent nationwide poll of 1,400 CIOs, 11% of them said they were planning to add IT staffers in the second quarter — the largest net increase in hiring since late 2002. Many of the CIOs interviewed for Robert Half Technology's quarterly "Information Technology Hiring Index and Skills Report" credited business expansion for the improved hiring outlook. The CIOs also pointed to a sharper focus on customer and end-user support as a major impetus behind job creation.

Networking skills were (as they always seem to be) the specialization experiencing the most robust growth. Also in great demand was expertise in Microsoft Windows and Cisco products administration. IT pros with résumés deep in security, help desk support and even applications development (the category hardest hit by offshore outsourcing) also showed up on the hiring wish lists.

In future installments of Career Watch, we'll be writing about some of the training programs under way at companies employing H-1B labor. Under a federal law now in effect, those companies have to show evidence of technology training programs for American workers, notes Julia King, our Career Watch editor and national correspondent.

If you've recently landed a job, discovered a great training resource or just have an idea for a story you'd like to see, Julia would love to hear from you. E-mail her at *julia_king@computerworld.com.* 45028

PIMM FOX

The Hosting Of Content Management

GETTING A HANDLE on content management can free up your IT staff, improve the consistency of your corporate Web sites and rein in outsourcing costs.

At Fountain Valley, Calif.-based Hyundai Motor America Co., e-business manager Paul Juedes was trying to resolve a combination of IT issues as he evaluated content management options. His IT staffers were constantly bogged down with routine maintenance work, mainly for Hyundai's sales and marketing Web sites. Consequently, the IT group was losing opportunities for new development work to outside vendors. "And morale was low because the maintenance work kept us from the more motivating and satisfying development projects," says Juedes.

PIMM FOX is a freelance writer in Santa Barbara, Calif. Contact him at pimmfox@pacbell.net

In addition, Hyundai had to make sure that the specifications and features communicated to customers via the Web were the same as those that dealership sales teams were learning in their training and disseminating to customers. This called for better coordination and scheduling of content.

So, after drawing a distinct line between Web content management and document management and after interviewing three vendors, Juedes called on Los Angeles-based CrownPeak Technology Inc. to host the new content management system.

"I wanted something clear and straightforward and thought I would fail if I got pulled into the document management arena," says Juedes. "The document management folks saw Web content management as their foot in the door to sell me document management, but they had to cut lots of features out of the system to make the costs competitive." The security and management issues associated with document management also would have forestalled rapid progress. The

cost to Hyundai to replicate CrownPeak's hosted environment with 24-hour monitoring (the vendor takes care of the hardware and security) would have been prohibitive.

Irini Koursaris, director of Web technologies at Malibu, Calif.-based publisher CurtCo Media Labs LLC, made the same cost comparisons but was also under a time crunch. Koursaris is responsible for the Web sites of national publications such as *The Robb Report* and *Worth* magazine. "My mandate was to relaunch two Web sites with a content management system without using an IT staff," says Koursaris. And she needed to get something up and running in about a week.

The CrownPeak system lets CurtCo Media easily drop in banner ads and makes it possible to embed hyperlinks, something that wouldn't have been possible with a competing IBM system. It can also use folders to organize content, which reduces training time.

Koursaris says she was hired to launch the Web sites on time, on budget, with a minimum of hassle and with the ability to expand features later.

Those all sound like good guidelines for selecting any content management system. **44920**

MICHAEL GARTENBERG

Filling Your Web Needs With RSS

YOU MAY HAVE HEARD a new buzzword making the rounds. RSS, which stands for Really Simple Syndication, could change the way we aggregate and read information from the Web and give companies a new way to deliver their messages directly to customers. But an ongoing standards battle may hurt the adoption of the technology before it really takes off.

RSS is simply an XML document, often called a "feed," that describes content generated from a Web site. This could be news, press releases or almost any other type of content. The beauty of RSS is that with a program that can read and aggregate different RSS feeds, users can access the content that's relevant to them without having to surf the Web or subscribe to e-mail newsletters. It's literally information at your fingertips. There are a number of free RSS readers, but my personal favorite is NewsGator, an aggregator from NewsGator Technologies that ties directly into Outlook and lets me read news there and post material to my personal weblog as well.

MICHAEL GARTENBERG is vice president and research director for the Personal Technology & Access and Custom Research groups at Jupiter Research in New York. Contact him at michael.gartenberg @jupiterresearch.com. His weblog and RSS feed are at http://weblogs.jupiterresearch.com/analysts/gartenberg.

RSS gained popularity as a byproduct of the weblog phenomenon. (Most weblog programs let you generate RSS feeds automatically.) But it's gone well beyond being just a cool way to read weblog posts. Today, leading publications (including *Computerworld*) let you subscribe to their feeds and get information updated as it's posted, without any effort on your part.

Originally, RSS was Netscape's answer to Microsoft's Internet Explorer "channels," which could push data to users' Windows 98 desktops. The technology languished for some time until UserLand Software Inc. created its own spec (confusingly, also called RSS) as part of its pioneering work in weblog technology.

Today, there are several flavors of RSS from vendors such as Google (which owns the popular Blogger family of Web sites) that threaten to fragment the marketplace and hold RSS back. This is a time when technologists need to come together, put the past behind them and support a single standard. It's truly a case where less development would result in more for the marketplace.

If the market fragments the current RSS 2.0 standard, that would have a huge impact — but probably not enough to kill RSS 2.0. I believe Microsoft or another large player would get into the game and come up with a variant of RSS. Any MS-RSS that might emerge as a consequence could be the basis for syndication in some future product. Microsoft's variation on RSS might even be compatible to some degree with the upcoming Windows operating system, code-named Longhorn.

What the RSS players need to remember is that users don't care about RSS or any other technology. They care about the value of syndicated content. The vendors should heed the words of the head of Black & Decker, who once said that customers don't buy the tool maker's products because they need 1-inch drills; they buy them because they need 1-inch holes. **44800**

WANT OUR OPINION?

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READERS' LETTERS

CIOs Mean Business

MY JAW DROPPED when I read the Feb. 2 "Think Tank" column [QuickLink 44159]. Conventional wisdom does indeed say that CIOs are responsible for making sure that IT spending is properly aligned with business strategy, just as it says that CFOs are responsible for making sure financial policy and capital structure are aligned with business strategy. If a person has a C-level title, he needs to actively contribute to the creation and implementation of company strategy. Suggesting otherwise is absurd. CFOs are expected to be more than accountants, and COOs are expected to be more than factory foremen. Why pay a six-figure salary to a CIO who just wants to be told what to do?

The last three years have been tough for CIOs. We can either give up and return to the role of MIS director or learn from our struggles and become better business people. Technology isn't an end in and of itself, it exists to enable a company to increase revenue and/or decrease costs. If CIOs can't figure this out, then we have no claim to be part of senior management.

Michael Hugos
CIO, Network Services Co., Chicago

GOPAL KAPUR'S notion that CIOs bear no responsibility for business/IT alignment represents a throwback to the days when technology was purely the slave of strategy and IT professionals hid in climate-controlled glass rooms and churned out reams of green-barred reports for their accounting masters. Back then, alignment meant taking orders and filling them. But longing for simpler days won't bring back such clarity for CIOs. Today, business strategy and alignment are the result of an ongoing conversation between what's desirable and what's possible. If CIOs were to revert to blindly serving their executive masters as Kapur suggests, the "what's possible" component of the conversation will cease, and the strategies the CIOs seek to serve will be the poorer for it.

Paul Glen
Computerworld columnist, IT management consultant, Los Angeles

DBAs Are Essential

FOR SOME TIME NOW, I have noticed a trend of thinking of the DBA as a techie. In fact, a top-flight DBA must have more intimate business knowledge than most application managers and analysts. It's up to the DBA to make sure all the company's data is properly accounted for and documented. The DBA must also understand the business processes and the need for application code to perform well. But technical knowledge is a very small part of the job. And if you put the DBA function overseas, you can kiss your data goodbye.

Andrew Engels, CPIM
President, Great Lakes Consulting Inc., Chicago

Branding Losers

MANY quality companies selectively outsource various components of their IT mix with excellent success. Tarring most companies as "losers" with the broad brush of a title like "Most Outsourcing Is Still for Losers" on Paul Strassmann's Feb. 2 column [QuickLink 44320] is inappropriate.

Richard Lincoff
St. Louis, rlincoff@msn.com

Paul A. Strassmann replies: *Nothing in the numbers that I cited supports the assertion that most outsourcers are losers. The graphics attached to the article show that much outsourcing — but not excessive outsourcing — is indeed profitable. Smart, selective outsourcing is always OK.*

Market Forces

I EMIGRATED from India in 1969 with no job and no friends or relatives in the U.S. to fall back on. I did have an engineering degree, and through persistence, I have not only survived but thrived in the ever changing U.S. economy. I have learned that this market is very dynamic, and one has to keep track of what is in demand and then go learn the new skills and come to the market better suited. Offshoring is not a shame; it's just market forces at work ["Offshoring's Shame," Readers' Letters, QuickLink 44324] Face up to them. Retool.

Vishwa M. Bhargava
Engineer, Richmond, Va., asiana@vcu.org

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 500 Old Connecticut Path, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

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Technology Columnist
San Jose Mercury News

Dan Gillmor is technology columnist for the San Jose Mercury News, Silicon Valley's daily newspaper. He also writes a daily Web-based column for SiliconValley.com, a KnightRidder.com site that is an online affiliate of the Mercury News. His column runs in many other U.S. newspapers, and he appears regularly on radio and television. He has been consistently listed by industry publications as among the most influential journalists in his field.

Ken Pasley
VP
FedEx Internet Technology

Ken Pasley provides leadership for the FedEx Express worldwide wireless and mobile architecture. In this position he oversees strategy, engineering, and development of wireless technology, including FedEx PowerPad, FedEx Private Network and Bluetooth implementation.

Roger Gurnani
VP & CIO
Verizon Wireless

As CIO, Roger Gurnani is responsible for the information systems portfolio development and operation of data centers and communications facilities for the nation's largest wireless voice and data network, which serves 36 million customers.

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TUESDAY, MAY 25

7:00am – 8:00am	Buffet Breakfast
8:00am	Welcome and Opening Remarks
8:15am	Opening Keynote Presentation
9:00am – Noon	General Sessions
Noon	Networking/Birds of a Feather Luncheon
1:30pm – 5:30pm	General Sessions
3:30pm – 5:00pm	Concurrent Breakout Sessions
5:30pm	Solutions Showcase & Expo with Buffet Dinner

WEDNESDAY, MAY 26

7:00am	Buffet Breakfast
8:00am	Opening Remarks
8:15am	Opening Keynote Presentation
9:00am – Noon	General Sessions
Noon	Solutions Showcase & Expo with Buffet Lunch
1:30pm – 3:00pm	Solutions "Show Off" – On stage Demonstrations
3:00pm – 5:00pm	Concurrent Breakout Sessions
6:00pm	Gala Evening

THURSDAY, MAY 27

7:30am	Buffet Breakfast
8:30am	Workshops
11:30am	Conference Concludes

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- ❑ Real Estate
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- ❑ Food Industry
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- ❑ Manufacturing (non-IT)
- ❑ Automobile
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- ❑ Agriculture / Forestry / Fisheries
- ❑ Other

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- ❑ CIO/CTO
- ❑ VP/GM/Director
- ❑ IS/IT Director/Manager
- ❑ Other IS/IT Department Manager/Supervisor
- ❑ Other Corporate/Business Manager
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Number of employees in your entire organization (ALL locations)
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- ❑ 5,000 - 9,999
- ❑ 1,000 - 4,999
- ❑ 500 - 999
- ❑ Under 500

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- ❑ $1 Billion - $9.9 Billion
- ❑ $500 Million - $999 Million
- ❑ $100 Million - $499 Million
- ❑ Under $100 Million

Your organization's annual IT/IS budget for all IT/IS products
- ❑ Over $1 Billion
- ❑ $500 Million - $999 Million
- ❑ $100 Million - $499 Million
- ❑ $10 Million - $99 Million
- ❑ $1 Million - $9.9 Million
- ❑ Under $1 Million

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TECHNOLOGY

HANDS-ON REVIEW

Adobe's Suite Ambitions

Adobe Creative Suite wants to be your one-stop design studio. We asked the *Computerworld* design staff to evaluate whether it offers enough benefits to justify moving to a single-vendor suite. **Page 30**

Technology by the Books

Computerworld's Todd R. Weiss reviews some recent works that offer information and guidance on complex topics such as Unix, Linux, XML and OpenOffice.org. **Page 31**

QUICKSTUDY

SOA

A service-oriented architecture is a computing structure in which an application contains only the logic specific to its immediate task and uses a set of services on a network to do more generic tasks. **Page 32**

Lyndon Brown of Wyndham International deployed antispam software that learns users's preferenc

Winning Ways to Stop Spam

These IT organizations took different approaches, but they all successfully controlled spam. Here's how they did it.

BY MARK HALL

AFTER TWO FAILED ATTEMPTS to control spam, Lyndon Brown thinks he's finally licked the problem. The manager of property and electronic messaging systems at the Dallas-based Wyndham International Inc. hotel chain is typical of many IT managers who have seen spam grow from being a nuisance for sensitive end users to a full-blown, productivity sinkhole for the entire company.

But Brown, like others, successfully fought off the unwanted e-mail. And along the way he freed up valuable IT resources, saved money and improved employee productivity.

Last year, spam cost businesses an average of $874 per employee in lost productivity, according to Nucleus Research Inc. in Wellesley, Mass. Yet companies that have found the right antispam technology have culled as much as 98% of spam destined for users' desktops, claims Boston-based The Yankee Group.

But the right tool still eludes many businesses, says Rebecca Wetteman, vice president of research at Nucleus. "It is still a huge problem with a significant impact on the way we do business," she says.

If you're still running rear-guard actions to combat spam or are looking for better alternatives, then the lessons of Wyndham International and other companies should prove valuable. Each took a different approach, but they all got results.

Adding a Gatekeeper

Brown says Wyndham deployed its first antispam tool in 2002, when the volume of unwanted messages could be handled by a customizable content filter on the e-mail server. An administrator set up the software with keywords believed to be spam indicators. But pretty soon, Brown recalls, the company had a full-time person dedicated to updating the filter to handle all the tricks spammers used to bypass it. "It just wasn't working," he says.

In January 2003, Brown switched to a stand-alone antispam appliance, which he declines to name. By that time, 27% of the 75,000 messages hitting Wyndham's e-mail servers each day were spam. But the appliance had a high false-positive rate, and Brown was deluged with complaints from many of the 7,000 e-mail users.

By August, spam accounted for 48% of all in-bound e-mail. So Brown rolled the dice for the third time and deployed MailFrontier Enterprise Gateway, antispam software from MailFrontier Inc. in Palo Alto, Calif. "We tested it for two weeks, then pushed it into production," he says.

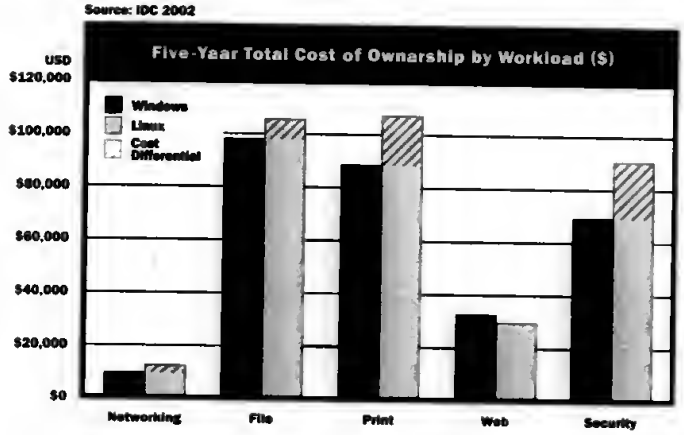
The software, which can run on a dedicated Windows or Solaris server, sits inside the firewall and works with Wyndham's Lightweight Directory Access Protocol di-

Continued on page 24

REAMS HAVE BEEN WRITTEN ABOUT WINDOWS
AND UNIX. LET'S SKIP TO THE BOTTOM LINE.

Microsoft

Source: IDC 2002



An IDC white paper summarized the five-year cost of ownership of a Linux server environment compared to a Microsoft® Windows® server environment this way: Windows comes out lower in cost in four out of five workloads and 11 to 22 percent lower in cost overall. To get the full study or more third-party findings, visit microsoft.com/getthefacts

Microsoft Windows Server System

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Continued from page 21

rectory server. MailFrontier immediately recognizes any user account changes on the LDAP server. The system has reduced spam management from a full-time job with the content filter to one that takes 30 minutes every two weeks, Brown says.

Like most antispam products, MailFrontier uses a mix of techniques to keep spam at bay. For example, the software periodically downloads updated spam information from MailFrontier. But it also uses honey pots — bogus e-mail addresses that MailFrontier keeps online to attract spam. When spam hits a honey pot, MailFrontier "fingerprints" it.

Brown is particularly pleased with the low false-positive rate, which he says is less than 1%. He credits this to the extensive end-user controls in the product.

Every day, users receive messages suspected to be spam. They can then determine whether to let the message pass or not, and the system learns the user's preferences.

Users can also establish their own white lists and blacklists and can adjust how often MailFrontier updates blacklists for the on-premises system.

Stuck in the Filter

Like Brown, Wayne Neville, network engineer at Congoleum Corp., a Mercerville, N.J.-based maker of flooring, prefers to fight spam in the same place he manages e-mail — on his Microsoft Exchange e-mail server.

His spam filter, iHateSpam, from Clearwater, Fla.-based Sunbelt Software, binds itself to Exchange's Simple Mail Transport Protocol, which manages the transfer of e-mail between Internet servers and between e-mail clients and the POP server. iHateSpam ranks incoming message content with a spam probability score that ranges from 1 to 75. It assigns points for keywords, source Web addresses, blacklists, white lists and other factors. Once a message receives 75 points, it's quarantined, he says.

Although administrators might expect the extra processing to hurt the performance of the e-mail server, Neville says his server's performance actually improved because it spends less time handling spam.

Each of Neville's 400 users once received an average of 300 spam messages per day. Now they get one or two. Plans to upgrade the e-mail server hardware to handle the extra spam load have been dropped, and users no longer call Neville to complain.

But some still call, he says. Despite training and regular promptings, some people still forget to check for possible false positives. Most users learn quickly, he says, "but some can't be trained."

Externalizing the Problem

Organizations that have been disappointed with antispam add-on filters and servers may want to consider outsourcing. Antispam service providers say they offer unique technical advantages over in-house efforts. For example, service providers such as FrontBridge Technologies Inc. in Marina Del Rey, Calif., can identify an IP address or a spammer's domain inside a message routed to one of its customers and quickly apply a filter that blocks spam from that source.

Vladimir Salomatoff, MIS director at Miami-based legal firm Adorno & Yoss PA, says he replaced an in-house spam filter with FrontBridge's service two years ago when the volume of pernicious e-mail overwhelmed it. Before he made the switch, some of the firm's lawyers were receiving 300 time-wasting spams per day. Now they get one or two, he says.

The junking of all that spam would have been a disaster if there had been false positives, he says. But in two years, he claims, the service hasn't quarantined a single legitimate message.

FrontBridge has developed 18,000 proprietary rules that it applies to each e-mail passing through the system. Interestingly, these rules reflect the characteristics of legitimate e-mail, not spam. According to Dan Nadir, the company's vice president of product development, the rules use a point system to distinguish between what he calls "a false critical," a one-to-one message from one user to another, and "a false positive," which he categorizes as bulk marketing mail and newsletters. The more the points add up, the more likely the message is legitimate.

Clif Sevachko, corporate infrastructure engineering manager at Pinkerton Computer Consultants Inc. in Trevose, Pa., also uses FrontBridge's services. He says there's another value to using an outsourcer: keeping suspect e-mails on FrontBridge's servers instead of on his own helps ensure "that there are no zero-day virus exploits on my network."

The Magic Box

However effective their services may be, service providers aren't always the best choice, especially for large companies. Doug MacLeod, manager of e-messaging and collaboration services at Ingersoll-Rand Co., a heavy machinery manufacturer with headquarters in Bermuda, says his service provider charged by the number of messages. As spam increased, so did his bill — from $10,000 per month in early 2002 to $35,000 per month by the end of that year.

He switched to IronMail, a hardware appliance from CipherTrust Inc. in Alpharetta, Ga., that now nabs an average of 210,000 spam e-mails per day while allowing 40,000 legitimate messages through. Ingersoll-Rand has deployed two IronMail appliances in the U.S. and one in Europe. MacLeod projects that by the end of this year the company will have saved $1.5 million over what it would have paid for its antispam service.

One way IronMail identifies spam is by locating Web addresses inside a message and tracing them to the source, says Paul Judge, CipherTrust's chief technology officer. "The easiest way to track down a spammer is to follow the money," he says. IronMail appliances receive regular electronic updates of such URLs from a central server.

MacLeod notes that setting up the appliance "takes a little work." Although it comes with blacklists of notorious spammer domains, he says you need to add your own white lists.

Better than 90% of incoming spam is blocked, he says. And while he'd like it to hit 100%, MacLeod thinks that's impossible. "The only way to truly keep spam out of the company is to keep everything out of the company, except from sources you put on a white list," he says. QuickLink 44796

Antispam Service Uses People Power

PATHWAY COMMUNICATIONS' subscription service uses its own proprietary filters like other antispam services – but adds a human touch.

To give an additional layer of review to organizations that can't tolerate any false positives, the Markham, Ontario-based service provider offers a human-inspection option for an extra $1 per month per user mailbox. For customers that choose the service, Pathway routes suspected spam to India, where people read each quarantined e-mail. Messages determined to be legitimate are forwarded to the intended recipients.

At Bata Ltd. in North York, Ontario, spam has been reduced to almost nothing and there have been no false positives since the shoe manufacturer started using Pathway's service, says technical support manager Eli Gabbay.

Gabbay says about 40% of the messages coming in to Bata are spam, and false positives had been a problem with the company's previous antispam content filter, which he declined to name. Because of the false-positive problem, the idea of adding a human filter was appealing. So far, the service has been effective. "Now I look good to management," Gabbay says.

– Mark Hall

Seven Steps To Take Now

Deploying antispam technology is just one part of controlling spam. Users and analysts say taking these basic steps also helps reduce the problem.

1. Don't publish e-mail addresses on Web sites. Instead use GIF image files that visitors click on to bring up an e-mail program.
2. Avoid simplistic e-mail address naming conventions to guard against dictionary-style spam attacks. Instead of mark_hall@computerworld.com, consider hall.mark.e@computerworld.com.
3. Establish a policy requiring employees to use an alias if they put more than a certain number of recipients in the To field of a message.
4. Contract with Internet service providers (ISP) that have a zero-tolerance-for-spammers clause in their acceptable-use policies (AUP).
5. Ask your ISP how many full-time employees are dedicated to enforcing its AUP. It should be more than one.
6. Ask to see the list of spammers your ISP has dropped from service.
7. Boycott manufacturers of products marketed by spammers and tell them your company won't buy from vendors that sell through that channel.

SPAMMERS' NEXT TARGET

Spammers are zeroing in on instant messaging

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SENSE THIS

Sensors get smarter and more powerful and learn to share. BY JULIA KING

THEY'RE EVERYWHERE. Tiny wireless microelectromechanical sensors — also known as "smart dust" or "motes" — are monitoring temperature, humidity, stress and motion in settings as diverse as crop fields, bridges, factories, warships and the branches of Northern California's mighty redwood trees.

Now, imagine these so-called MEMS implanted in your body, periodically sending joint-load alerts to the orthopedic surgeon who performed your knee or hip replacement. Given extremely rapid advances in the intelligence and flexibility of sensor-based microcontrollers, such "smart implants" aren't all that far-fetched, experts say.

But up until the past year or so, such a scenario was implausible because of limitations in both the power supply and the programmability of most sensors and sensor networks. Sensors normally produce an overwhelming flood of data in a constant stream that steadily depletes their battery power.

With funding from the U.S. Navy, Williston, Vt.-based MicroStrain Inc. is experimenting with piezoelectric materials, which generate electricity as they undergo stress. This way, sensors could collect the power they need from vibrations on a factory floor or from the movement of the person they're implanted in.

Researchers are also fine-tuning software so that sensors deliver summary information, such as alerts or alarms, rather than a steady stream of raw data. This also conserves power.

At Palo Alto Research Center Inc. in California, a team led by principal scientist Feng Zhoa is experimenting with an energy-saving "information-driven sensor-querying" algorithm, which enables users to task sensors to collect and transmit information based on its usefulness.

FUTURE WATCH

"It's quite similar to the way humans track information," Zhoa says. "You can't pay attention to all stimuli. What we're building is distributed attention for sensor networks. It's the ability to shift and focus attention when new stimuli of interest emerge."

Meanwhile, working with researchers at the University of California, Berkeley, Intel Corp. has created an open-source operating system called TinyOS, which, among other things, enables sensors and sensor networks to report summaries of data or various classifications of information.

"TinyOS renders sensors into programmable routers. You can program what happens close to the sensor and what happens on the network," says David Culler, a Berkeley computer science professor.

This real-time information is then stored in TinyDB, which "can make the physical world like a database," Culler says. "Rather than issue SQL queries to get information out of a database, you issue queries to data streaming from the real world. If you look at the power industry, there's equipment throughout the country that's quite aged, and the ability to watch that equipment would be a huge benefit."

The implications of these advancements for corporate IT departments are huge, Culler adds. "They have to realize there's a oew class of computer system emerging, and five years from now, the vast majority of devices in their companies will be these kinds of [sensor-based, networked] devices," he says.

As a result, IT shops will face tough new demands on network bandwidth, data storage and data management.

For example, a typical semiconductor fabrication plant is home to more than 5,000 sensors. "Today, there are electricians who visit the sensors and milk data from them. In very short order, that data will stream in real time," Culler predicts. "That's a whole new kind of IT asset that IT will need to deal with. It allows you to monitor spaces in ways that you couldn't before and to look at interactions between different things."

Remote Control

Increasingly, sensor networks will also be able to share information and be queried and programmed remotely over the Internet to perform certain tasks. This will be possible in large part because of emerging standards developed by Open GIS Consortium Inc., a Wayland, Mass.-based international organization that aims "to make all types of Web-resident sensors, instruments and imaging devices, as well as repositories of sensor data, discoverable, accessible and, where applicable, cootrollable via the World Wide Web."

"Right now, specific groups in vertical markets develop sensor webs that they know how to communicate with in their own language. All of these webs are independent and can only be used by a particular group," explains Michael Botts, a professor at the University of Alabama in Huntsville and the principal architect of the Sensor Model Language, or SML, a standard XML encoding scheme for metadata that describes sensors and sensor data.

"We're trying to make it easy by setting up standardized [SML] interfaces that would wrap around existing hardware and software," says Carl Reed, executive director of Open GIS's specification program.

"A vision for the future is more autonomous sensor webs that can act on their own and communicate," says Botts. Eventually, he says, Open GIS officials envisioo users combining data from different sensor networks and arranging it in a spatial display. For example, the U.S. Environmental Protection Agency could combine real-time sensor data collected from near a chemical spill with sensor-based wind data to determine the size and direction of a chemical plume caused by the spill.

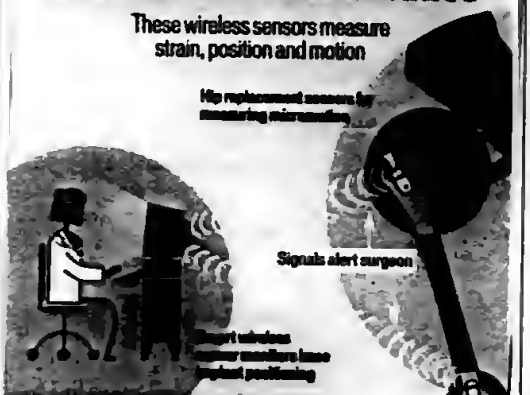
And a company might combine data from sensors oo cargo containers in transit to a factory with productioo data so that it can operate cootinuously at the lowest possible inventory level.

"The standards all started to develop a level of interoperability that doesn't exist today," says Reed. "The impact on corporate IT is that companies can benefit from information throughout the decision cycle. They will have an ability to insert new plug-and-play technologies to synthesize data. This will also bring down the cost of accessing information." ◎ 44641

> **"Today, there are electricians who visit the sensors and milk data from them. In very short order, that data will stream in real time. That's a whole new kind of IT asset that IT will need to deal with.**
>
> DAVID CULLER, PROFESSOR OF COMPUTER SCIENCE, UNIVERSITY OF CALIFORNIA, BERKELEY

SENSORS FOR BIOMECHANICS

These wireless sensors measure strain, position and motion



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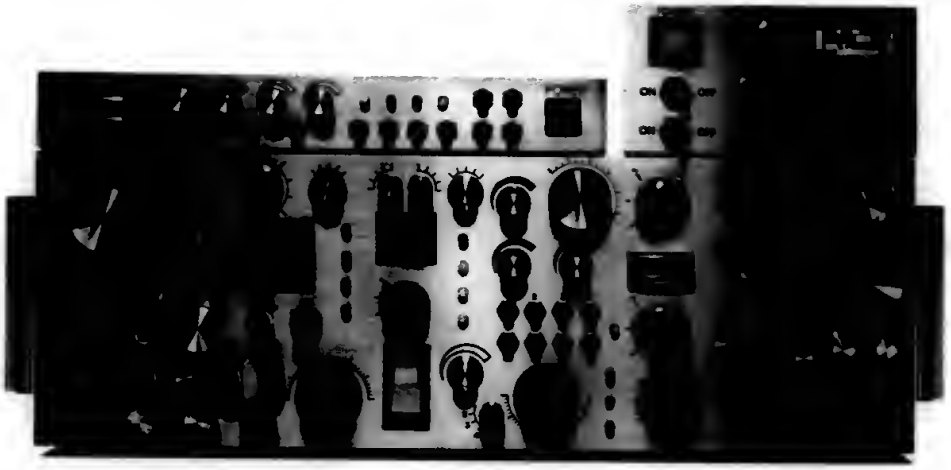

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Adobe's Suite Ambitions

With Creative Suite, Adobe strives to offer everything designers need in a single, well-integrated package. By Robert L. Mitchell

ADOBE CREATIVE Suite (CS) from Adobe Systems Inc. is like a Swiss Army Knife for designers. Tucked inside are updated versions of the Adobe Illustrator drawing program, Photoshop image editor, GoLive Web page designer, InDesign page design software and Acrobat PDF creation tool. All of the tools are well integrated and share a common look and feel.

There's even a new workflow tool, called Version Cue, that does things like group project files into common folders and track different versions over time and enables users to collaborate with other designers on the same project.

HANDS ON REVIEWS

But there's a catch: To get the full benefits, you'll have to use all of the applications, especially InDesign. Many designers use QuarkXPress. Are the CS's benefits enough to convince designers to switch?

To find out, *Computerworld* put Adobe CS into the hands nf our internal design team — all QuarkXPress users — to see how the suite would fare in a large-scale publishing operation.

Inside the Box

It takes about 20 minutes to install Adobe CS. The suite requires L7GB of disk space and runs on Windows XP or Mac OS X.

Consistent menus and feature sets are a hallmark of the suite, but "the best part of the suite is the integration between InDesign and Photoshop," says design director Stephanie Faucber. Users can drag and drop images to embed them in InDesign, which creates a picture box, places the art and sizes it for you automatically. Clicking on the image transports the designer directly into Photoshop, where he can adjust the size or resolution, save changes and return to InDesign without missing a beat.

When they use a mix of applications, designers must leave the page-layout program, open the photo editor, find and edit the image file, save it, and then go back into the design program and update the image in the layout. "[CS] is a real time-saver, even if I'm working on a single-page, single-photo layout," says April O'Connor, associate art direetor at *Computerworld*.

Images or graphics embedded in GoLive Web pages or Acrobat files can also be edited in the same way.

Making the leap from QuarkXPress to InDesign is intuitive and easy. "Many of tbe tools will be recognizable to Quark users," such as the pen, text tool and line tool, Faucher says. InDesign also uses the same "quick key" shortcuts that Quark uses and presents similar menu options and palette designs. And it adds new features such as nested style sheets and an eyedropper tool, similar to Photosbop's, that you can use to apply anything from colors to drop shadows and four styles in a layout.

Unfortunately. InDesign can't read QuarkXPress 5 or 6 files, which is a problem if you need to reuse or update legacy Quark files. Third-party add-ins for Quark also aren't compatible, although many of the ones *Computerworld* uses — sucb as a module to view high-resolution images — are supported directly within InDesign, O'Connor says.

Adobe CS also allows integration between InDesign and GoLive for streamlining print and Web design efforts.

For example, Web pages can be directly linked to an InDesign layout so that the Web version updates automatically as you make changes to the print version.

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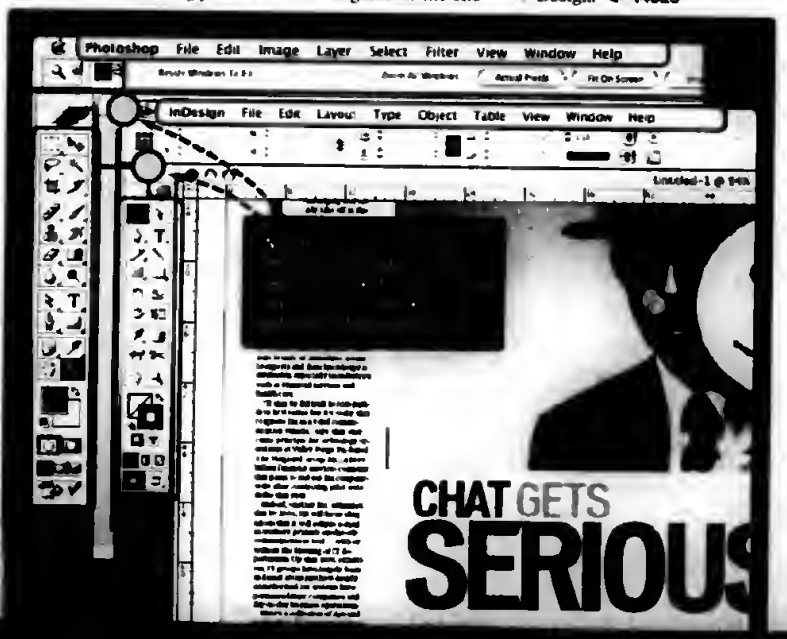
If you're looking for an all-new system, Adobe CS is worth considering. InDesign is less expensive than QuarkXPress (when purchased separately) and offers more interactivity with the complementary programs most designers already use: Illustrator, Photoshop and Acrobat. But for organizations already heavily invested in a Quark-based publishing system, the many time-saving advantages of Adobe CS may not be enough to justify the cost of switching, says Faucher, "despite the sheer pleasure of working with InDesign." **44329**

Adobe Creative Suite

PRICING

Premium Edition (includes InDesign CS, Illustrator CS, Photoshop CS, GoLive CS, Acrobat CS, Version Cue and a Design Guide tutorial): $1,229

Standard Edition (excludes Acrobat and GoLive): $999



Adobe's Suite Ambitions

With Creative Suite, Adobe strives to offer everything designers need in a single, well-integrated package. By Robert L. Mitchell

ADOBE CREATIVE Suite (CS) from Adobe Systems Inc. is like a Swiss Army Knife for designers. Tucked inside are updated versions of the Adobe Illustrator drawing program, Photoshop image editor, GoLive Web page designer, InDesign page design software and Acrobat PDF creation tool. All of the tools are well integrated and share a common look and feel.

There's even a new workflow tool, called Version Cue, that does things like group project files into common folders and track different versions over time and enables users to collaborate with other designers on the same project.

HANDS-ON REVIEWS

But there's a catch: To get the full benefits, you'll have to use all of the applications, especially InDesign. Many designers use QuarkXPress. Are the CS's benefits enough to convince designers to switch?

To find out, *Computerworld* put Adobe CS into the hands of our internal design team — all QuarkXPress users — to see how the suite would fare in a large-scale publishing operation.

Inside the Box

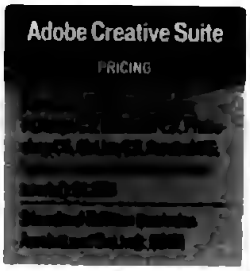
It takes about 20 minutes to install Adobe CS. The suite requires 1.7GB of disk space and runs on Windows XP or Mac OS X.

Consistent menus and feature sets are a hallmark of the suite, but "the best part of the suite is the integration between InDesign and Photoshop," says design director Stephanie Faucber. Users can drag and drop images to embed them in InDesign, which creates a picture box, places the art and sizes it for you automatically. Clicking on the image transports the designer directly into Photoshop, where he can adjust the size or resolution, save changes and return to InDesign without missing a beat.

When they use a mix of applications, designers must leave the page-layout program, open the photo editor, find and edit the image file, save it, and then go back into the design program and update the image in the layout. "[CS] is a real time-saver, even if I'm working on a single-page, single-photo layout," says April O'Connor, associate art director at *Computerworld*.

Images or graphics embedded in GoLive Web pages or Acrobat files can also be edited in the same way.

Making the leap from QuarkXPress to InDesign is intuitive and easy. "Many of the tools will be recognizable to Quark users," such as the pen, text tool and line tool, Faucher says. InDesign also uses the same "quick key" shortcuts that Quark uses and presents similar menu options and palette designs. And it adds new features such as nested style sheets and an eyedropper tool, similar to Photoshop's, that you can use to apply anything from colors to drop shadows and font styles in a layout.



Unfortunately, InDesign can't read QuarkXPress 5 or 6 files, which is a problem if you need to reuse or update legacy Quark files. Third-party add-ins for Quark also aren't compatible, although many of the ones *Computerworld* uses — such as a module to view high-resolution images — are supported directly within InDesign, O'Connor says.

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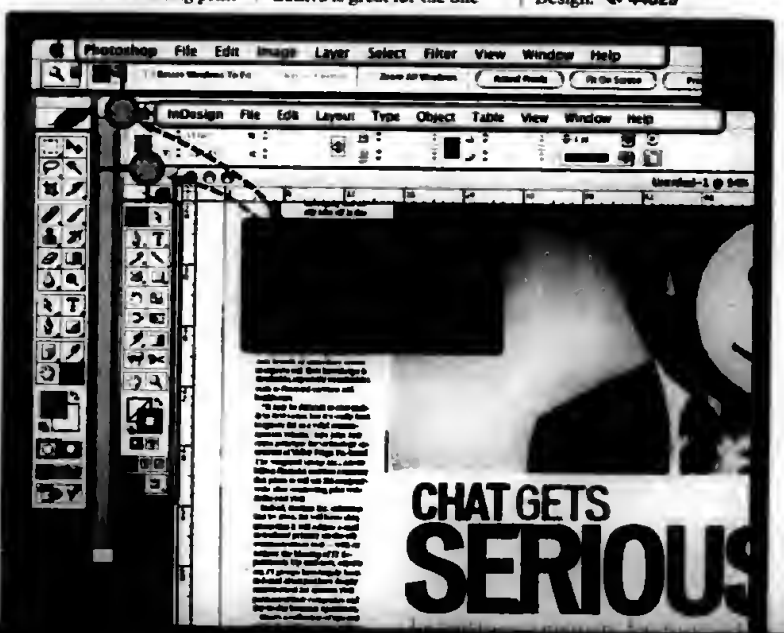


Technology BY THE BOOK

Some recent works about Linux, Unix, XML and OpenOffice.org offer guidance on complex topics. By Todd R. Weiss

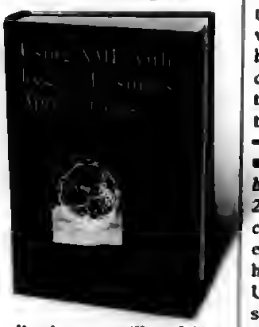
BOOK REVIEWS

From configuring and using Linux on mainframes to finding ways to use XML with older, critical business applications, the books reviewed below provide context, background and practicol advice. If, like most IT managers, you're short on time and must be selective in your reading, we suggest that you take o look at these selections.

■ **Linux on the Mainframe,** *by John Eilert, Maria Eisenhaendler, Dorothea Matthoeus and Ingolf Salm, Prentice Hall, 2003, $49.99, 464 pages, softcover.* Need a business argument for considering Linux on the mainframe inside your company? Then check out this book, which provides useful advice along with reasons to consider mixing Linux with IBM zSeries or S/390 mainframes. Written by four present or former IBM Lab employees, the book details benefits of running Linux on mainframes, including server virtualization, high reliability and excellent scalability. It also covers security, systems management, performance and capacity planning, and file-system selection. One of the best pieces of advice in this guidebook for both decision-makers and hands-oo techies is to start with a small project to prove its ROI and then expand the deployment as needed.

■ **OOoSwitch: 501 Things You Wanted to Know About Switching to OpenOffice.org From Microsoft Office,** *by Tamar E. Granor, Hentzenwerke Publishing, 2003, $49.95, 311 pages, softcover.* The free, open-source OpenOffice.org productivity application suite has been available for some time and continues to gain loyal users, but for many IT departments, it introduces more questions than answers. To make OpenOffice.org a more appealing option, Granor has written this detailed and helpful manual, which is filled with step-by-step instructions on how to replace costly Microsoft Office deploymeots with open-source applications while maintaining office productivity and adequate features. A well-written index and table of contents help readers find clear instructions on using OpenOffice.org. Granor is also honest about listing areas where the software still has to catch up to Microsoft's king-of-the-hill suite, such as in the translation of heavily formatted documents.

■ **Using XML With Legacy Business Applications,** *by Michael C. Rawlins, Addison-Wesley, 2003, $49.99, 624 pages, softcover.* If your existing business applications are still useful but lack new features such as XML, don't chuck them and start over. Instead, follow this how-to guide for adding XML capabilities by using file conversions and other means. Rawlins provides many examples of ways to integrate XML and non-XML applications so they can communicate to complete needed tasks without having to replace applications. Don't mistake this for an XML tutorial, however. Rather, the book is aimed at Java and C++ developers who already have a deep working knowledge of XML.

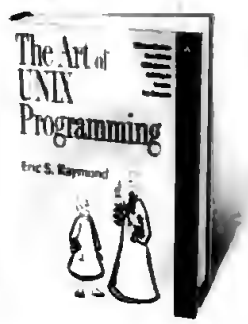


■ **Managing Linux Systems With Webmin,** *by Jamie Cameron, Prentice Hall, 2003, $44.99, 816 pages, softcover.* Here is a highly detailed technical guide to managing Linux systems with the browser-based Webmin program, a versatile application for running commands and editing configuration files. Cameron, who created Webmin in 1997, provides a full discussion of how to use more than 50 program modules, including configuring networks, firewalls, Domain Name System servers and Internet services. The guide is aimed at helping beginning to intermediate Linux systems administrators set up and maintain their networks.

■ **Linux and the Unix Philosophy,** *by Mike Gancarz, Digital Press, 2003, $34.99, 220 pages, softcover.* This is a descriptive and enjoyable recounting of the history and roots of Linux and Unix, including their quirks, successes, failings and futures, written by the author of the 1995 companion book *The Unix Philosophy.* Gancarz traces the shared lineage between the two operating systems and describes the thinking of many of the programmers who helped to create Linux. The book also details features of Linux and maps out its future use on various hardware platforms. This very readable book also features a foreword by open-source luminary John "Maddog" Hall.

■ **Linux Transfer for Windows Network Administrators: A Roadmap for Building a Linux File and Print Server,** *by Michael Jang, Hentzenwerke Publishing, 2003, $49.95, 310 pages, softcover.* Written for Windows systems administrators, this reference book aims to help IT staffers configure low-cost Red Hat Linux file servers that can communicate with both Linux and Microsoft Windows desktops PCs. Because of its Windows bent, the book makes it easy for Windows-centric IT workers to adjust to the differences in Linux by going through them step by step. Jang is both MSCE and RHCE certified and has put together a book that nimbly crosses the boundaries between the operating systems to clearly illuminate the steps needed to bring Linux into a corporate IT environment in a useful way.

■ **The Art of Unix Programming,** *by Eric S. Raymond, Addison-Wesley, 2003, $39.99, 560 pages, softcover.* If Gancarz's volume is a Unix and Linux history book, Raymond's is a Unix encyclopedia. Raymond tells how developers have massaged Uoix over the years to give it needed new capabilities, while continuously helping to make it more reliable and capable for business and scientific IT. Everything from Unix programming languages to development tools is brokeo down and explained, providing fascinating insights into the motivations and creative thinking that went into the ongoing development of Unix. This isn't a technical manual on Unix but rather a compelling guidebook on how Unix got to where it is today. **44739**



SOA

BY RUSSELL KAY

Given the buzz about service-oriented architecture today, let's make a few important points. The SOA concept isn't new, it's not a technology per se, it isn't just the use of XML and Web services, and it's a good deal more than a development methodology.

SOA is a pretty simple idea: Standardize those generic functions that are widely used by many applications into reusable components (services) that are accessible over a network, and code more specific logic needs into the application itself. Indeed, every operating system is a prime example of an SOA in action, if not in name.

IT organizations were successfully building and deploying SOA applications years before XML and Web services existed. They just talked about the process using terms like *modularity, reusable components, object-oriented programming* or *application programming interfaces*. Although none of those concepts is identical to SOA, they all embody aspects of it.

SOA is just the latest shorthand for a method of designing, developing, deploying and managing discrete pieces of computer logic (read "services") within a computing network. It's a way of structuring applications, organizing IT infrastructure and standardizing business functionality. Although SOA is often associated with the use of XML and Web services, these latter two are merely the latest implementation of the SOA principle.

DEFINITION

An **SOA** (service-oriented architecture) is a computing structure in which a software application contains only the logic specific to its immediate task and uses a set of services on a network to do more generic tasks.

SOA requires developers to design applications as collections of services, even if there's no immediately apparent benefit to doing so. SOA requires developers to think beyond their current application, to consider reusing existing services and to examine how other developers might reuse the services they are creating. SOA encourages developers to use alternative technologies and approaches, such as messaging, and to build applications by linking services together rather than by writing new code. This type of application structure allows a company to react quickly to changing market conditions; instead of having to develop new application code, they can simply modify the messaging.

QUICK STUDY

By focusing on business processes and using standard interfaces, SOA can help hide the underlying technical complexity of the IT environment. Analyzing the interaction between services in an SOA lets companies understand when and why specific business logic is being executed, which makes it easier to optimize business processes.

Loose vs. Tight Coupling

One key feature of SOA is the use of loosely coupled connections. Traditionally, connections between applications or between applications and services have been tightly coupled, as with CORBA (Common Object Request Broker Architecture). The difference is important.

Eric Van der Vlist, author of *XML Schema: The W3C's Object-Oriented Descriptions for XML* (O'Reilly, 2002), describes the differences between the two types of coupling with this analogy: In a tightly coupled system, you have direct control over the operation. For example, flipping a wall switch to turn on a light is a tightly coupled system. However, making a telephone call to order a book is a loosely coupled system. It could be tightly coupled only if you had access to the button controlling the printer that will print the book you order.

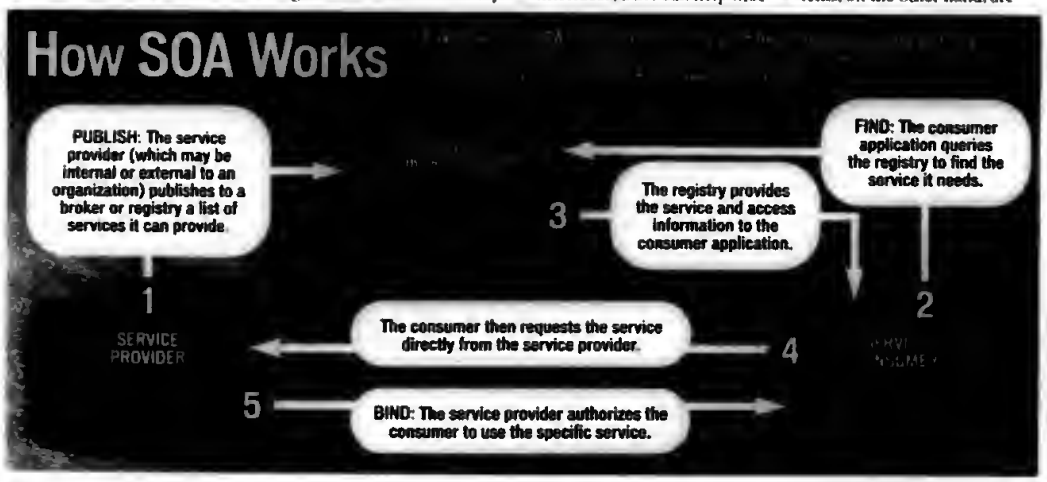
Tightly coupled systems are usually fast and safe, and the risk of transmission errors is very low. Loosely coupled systems, on the other hand, are usually more error-prone but also more flexible. The clerk you talk to on the phone may misunderstand the ISBN number of the book you want to order or make an error while entering it. But if you don't remember the ISBN number, you can still tell the clerk that you want the latest book on the World Wide Web Consortium's XML schema by a guy with a Dutch name from a publisher that puts pictures of animals on its book covers — and when you do that, you've got a good chance of being understood.

Tight coupling tends to make component maintenance and reuse much more difficult, because a change in one component automatically means changes in others. Similarly, tight coupling makes extra work when an application has to adapt to changing business requirements, because each modification to one application may force developers to make changes in other connected applications.

In general terms, a Web service is a type of SOA in which interfaces are based on standardized Internet protocols. In addition, except for binary data attachment, Web service messages must be in XML. (For more on Web services, go to QuickLink 23236.) Generally speaking, a Web service is little more than an SOA that uses Simple Object Access Protocol and the Web Services Description Language. However, an SOA doesn't require the use of Web services as we understand them, and some types of Web services can be deployed without an SOA. **44708**

Kay is a Computerworld contributing writer in Worcester, Mass. Contact him at russkay@charter.net.

How SOA Works



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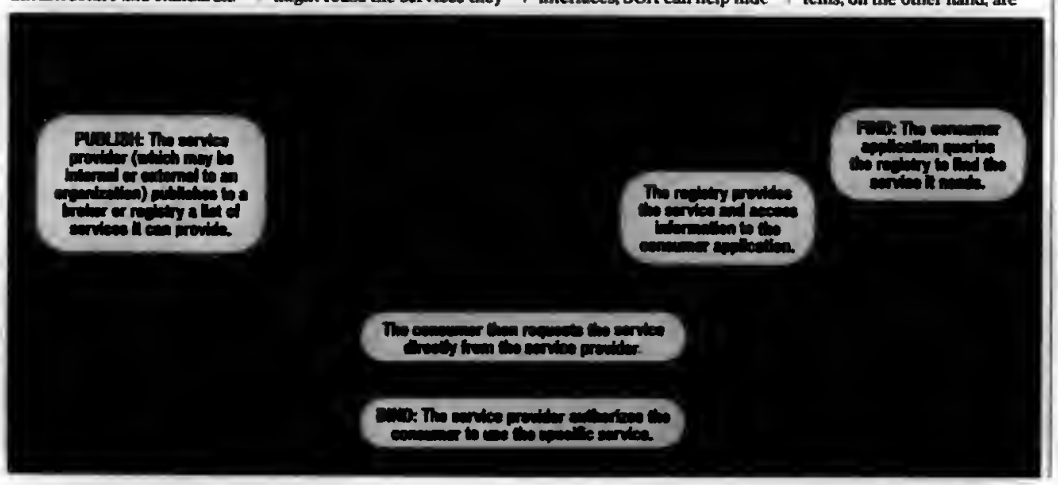

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Overwhelmed by Sarbanes-Oxley

The security-related controls required for a successful compliance audit can be substantial. By Mathias Thurman

SECURITY MANAGER'S JOURNAL

WE'RE JUST finishing up the integration of an acquisition's poorly secured IT infrastructure into our information systems. We've disabled almost all external access to its network, except for two services.

The first is a virtual private network tunnel to allow employees to continue accessing the acquired firm's software development environment. The other service is the firm's file transfer protocol server, which we'll keep until we can migrate its content to our own FTP server. By the end of the week, my team and I hope to have all critical information and services migrated so we can shut down the other company's offices.

Now I can turn my attention back to our ongoing Sarbanes-Oxley Act compliance audit. Meeting this law's financial accounting and reporting requirements is the No. 1 priority of our executive staff — and that's a great enforcement mechanism. Nobody wants to be responsible for the audit's failure, so people usually bend over backward to accommodate my requests once I say the magic words: "This is for the upcoming Sarbanes-Oxley audit."

I've completed a security standards document and am now assigning ownership of the 90 or so standards it contains to the appropriate functional units in the company.

For example, I developed several standards for data backup. Now I must ensure that the data center manager, who is responsible for our backup infrastructure, can prove that we comply with those standards.

The compliance-checking process is ton time-consuming for me to accomplisb alone, so I plan to assign compliance efforts to others in my department. There are many areas in which we don't meet requirements, but that's OK because the standards document can help us expedite compliance.

I've started regular meetings with our IT auditor, who has been concentrating on identifying what he calls "key controls." Sarbanes-Oxley requires us to create a "credible body of evidence" that attests to what we say we're doing. That evidence includes statements and documentation demonstrating that we're in compliance with our identified controls.

For example, if you process credit card information as we do and your policy states that you store credit card data in an encrypted field in an Oracle database, showing the auditor a copy of that policy isn't enough. You might need to run a script on the Oracle database that prints out the database fields with associated security controls. If you run this script on a daily or weekly basis and can show that the database administrator is regularly reviewing the reports, that's an acceptable control.

> **People usually bend over backward once I say the magic words: 'This is for the upcoming Sarbanes-Oxley audit.'**

In a large company like ours that does most of its business by e-commerce, the number and complexity of needed controls is overwhelming. Most of them focus on financial matters. Since our Oracle database lives on a Unix server on the corporate network, which is administered by the IT group, the scope of the audit can be extensive. The reason for that is simple: What would be the use of protecting the Oracle database if we didn't also enforce strong authentication for administrative access to the Unix server on whicb the database is running?

We're supposed to identify the key controls sometime within the next few weeks. That's when the real work will start. Until then, I'll continue shaping my standards document.

Wireless Bypass

I've had to deal with several other issues over the past couple of weeks, including another in my never-ending series of problems with our wireless network During a recent audit of the wireless infrastructure, I discovered that an employee has a company-provisioned access point at home. He also has the access point set to broadcast the Service Set Identification code, and he doesn't have encryption enabled. That wouldn't be a big deal except for the fact that he also has a Digital Subscriber Line connection that links directly into our corporate network.

Normally, bome employees must use a VPN to connect to the corporate LAN, but this worker bypassed that requirement with his DSL link. As a result, anyone in his neighborhood with a wireless LAN card could use his access point to gain access to our network without any type of authentication whatsoever.

Fortunately, when he attached the access point to the corporate network, it automatically registered itself with our WLAN management system. We use Airwave Management Platform from AirWave Wireless Inc. in San Mateo, Calif. The tool lets us centrally manage all access points, so we shut his down immediately and notified him via e-mail. I do have one political worry: The user is a close associate of a company executive, so I'm sure I'll hear about this.

Elsewhere on the wireless front, I'm trying to find a way to provide a hot spot in our executive business center, which is visited by customers who need Internet access. The business need is justified, but we can't assume that customers will have any support for our security protocols.

We need to create a secure WLAN that gives customers Internet access but prevents unauthorized users from consuming our bandwidth. We'll probably use a system that incorporates a Web enabled sign-on and rotate the log-on credentials regularly.

About a year ago, we had looked at products from ReefEdge Networks Inc. in Fort Lee, N.J., to address a similar issue. I plan to take another look at its offerings, along with a few other products.

WHAT DO YOU THINK?

This week's journal is written by a real security manager. "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com, or join the discussion in our forum. QuickLink a1590

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SECURITY LOG

Security Bookshelf

A Field Guide to Wireless LANs for Administrators and Power Users, by Thomas Maufer; Prentice Hall PTR, 2003.

After a short introduction on "why wireless," Maufer jumps right into the deep end of the pool, offering up a detailed technical analysis and dissection of various wireless protocols. The book is very technical, but Maufer puts things into perspective in the last chapter, where he covers deployments and case studies.

Those looking for entry-level reading on WLANs should pass on this book. But if you already have a wireless infrastructure and need a good reference to explain things like packet captures and protocol analysis, this field guide fits the bill.

– Mathias Thurman

Teros Protects Confidential Data

Teros Inc. last week introduced Safe Object, a module for its Secure Application Gateway that's designed to prevent confidential data from leaving Web applications. The software lets users define what data should be filtered from data that's being accessed via Web applications, according to the Santa Clara, Calif.-based company.

As Web applications pass through the Secure Application Gateway, Safe Object looks for defined strings of data and either blocks them or transforms them so that they are unreadable. Teros says Safe Object will be useful to businesses that must comply with privacy regulations, and it can be used to protect information like bank account numbers, e-mail addresses and tax ID numbers.

The Safe Object module will be available this month as a standard feature of Secure Application Gateway, which costs $25,000 to $54,000.

BRIEFS

Dell Adds Remote Management

Dell Inc. has added remote management capabilities to single Pentium 4 tower and rack-mounted servers. The servers, which start at $699, include tools and management capabilities for remote management over a network.

Ariba Ships Tools to Manage Spending

Ariba Inc. in Sunnyvale, Calif., plans by the second quarter to ship three new applications: Ariba Category Procurement, Contract Workbench and Settlement. They are designed to help customers better manage their spending habits by improving collaboration and cutting cycle times for contract creation. Ariba Settlement is an integrated settlement application that helps automate processes such as payment schedule creation and discounting. Pricing wasn't available.

IBM Offers Linux on All pSeries Servers

IBM is now selling Linux on all of its pSeries servers and is making its 1.9-GHz Power4+ processor available on its high-end eServer p690. The company also said it is lowering prices on its p650, p670 and p690 Unix servers, with reductions in the range of 8% to 20%.

GigaTrunk Probe Manages Links

Network Instruments LLC in Minneapolis, last week announced the release of a new GigaTrunk Probe designed to manage trunked Gigabit links located at the core of the network. GigaTrunk Probe enables wire-speed capture and passive analysis with the ability to monitor up to four trunked links simultaneously. It is available now, priced from $25,000 to $33,000.

PAUL A. STRASSMANN

Measuring Information Work Productivity

A REMARKABLE EVENT took place in New York on Feb. 2. The Microsoft-guided Information Work Productivity Council convened an invitation-only forum to discuss what's known about the contributions of information technologies to productivity. Key executives from Accenture, Cisco, HP, Intel, SAP and Xerox were listed as co-sponsors, but the tone was set by the keynote delivered by the council's chairman, Jeff Raikes, a Microsoft group vice president.

Paul A. Strassmann (paul@strassmann.com) has had to explain billions in IT spending at General Foods Corp., Kraft Foods Inc., Xerox Corp., the Department of Defense and NASA.

Raikes, who oversees business and productivity services at Microsoft, kicked off the daylong meeting by talking about what it would take to "reinvent" productivity. "Economics needs to find a better way to reflect the new models of the Information Age," Raikes said. "Instead of focusing on outputs, we need to focus on outcomes."

Raikes framed the productivity issue in Microsoft terms, such as how to demonstrate to skeptical financial executives the extent to which instant messaging can make an organization more profitable, and how you can get the funding you need by calculating the ROI of deploying Tablet PC hardware.

Despite references to 20 years of discussions about the "productivity paradox," the speakers made it clear that the specter of not knowing how to prove, in tangible terms, the relationship between IT and enterprise-level economic results is still haunting the IT industry. Their anxiety reminded me somehow of *The Emperor's New Clothes* by Hans Christian Andersen. It was apparent that the vendor ambassadors were walking around without much substantive cover in the form of a way to prove — in commonly accepted financial terms — that the customers' IT spending makes a verifiable contribution to profits.

We are now in an era when almost no applications of computers are amenable to analysis by proven industrial engineering methods — unlike in the days when computers were applied to automation of clerical labor.

Customer IT executives declare consistently that they have an urgent need for new techniques to address the productivity gains of workers whose observable output is hard to measure. The articulate Raikes made that clear when he said that the goal of the council was to "redefine productivity and create a framework for Information Age economics. . . . The current measures fail to measure the contributions of IT."

If we can overlook the council's self-serving purposes, its objectives are commendable. Unfortunately, "The Information Work Productivity Primer," which was distributed to the participants to provide an explanation of the council's thinking, didn't offer anything that could be used to win over skeptical CFOs. It defined the issue and provided a review of theoretical work that would be useless in preparing for an IT budget review. The primer and the talks didn't offer vulnerable CIOs much hope that they could survive a grilling from corporate budget analysts with the help of tools that someday could become available from the council.

The problem with the work of the council is its exclusive vendor orientation. It's unlikely that credible solutions will come out of its efforts until the vendors also include material participation from CIOs and CFOs. Productivity and profits from the application of IT — the outputs that Raikes talked about passionately — are delivered by customers and not by suppliers. It's the customer's IT executives who must prove that their company's IT spending is productive and profitable!

The council must overcome its apparent assumption that the answers to the productivity paradox can be found in researching high-level government statistics and not in detailed data that reports on the results of corporate profit centers. The plain fact is that all aspects of business are based on what the accountants report as corporate results. When corporate review committees examine IT budgets, they will first translate funding requests into financial impacts as measured by the accountants before they will listen to all of the other promises.

A more realistic view of how to measure corporate information productivity, as seen from CIO and CFO points of view, is already available to *Computerworld* readers. If you'd like to explore how to perform such calculations for your organization, as well as check whether your company was ranked among the global 1,319 firms in my information productivity index, have a look at the report "Defining and Measuring Information Productivity" [QuickLink a4090]. A comparison of where your company stands in productivity relative to its competitors could be your best opener when asking for IT money. 44878

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THINK TANK
The Payoff From IT Marketing
Marketing by the IT department overcomes user resistance at Children's Hospital Boston. And consultancies offer various definitions of "IT governance." **Page 39**

OPINION
What Kind of Manager Are You, Anyway?
Paul Glen says there are managers of things, managers of people and managers of abstractions. It's important for IT managers to know their own styles and how to work with those who have different ones. **Page 41**

Battlefield Leadership
An IT leadership guru and a retired U.S. Army general take IT executives to sites such as the Civil War battlefield in Gettyshurg, Pa., in search of leadership lessons. **Page 38**

EVERY POLICE OFFICER'S nightmare is to be wounded on the streets — alone. So when the Orlando Police Department pilot-tested new Global Positioning System (GPS) units, which let the central office track officers' locations, you'd think the officers would have been grateful.

Gratitude, however, wasn't much in evidence during the pilot program, according to Conrad Cross, CIO of the city of Orlando. "The officers felt it was intrusive to be monitored 24/7 and didn't see much benefit in their day-to-day work," he says. The unions "raised a lot of noise" and the project was canceled, Cross says.

Many companies monitor employee e-mail and Internet usage, and Web-based security cameras are commonplace fixtures in office buildings. However, technologies such as GPS and employee badges with radio frequency identification (RFID) tags promise to take employee monitoring to an entirely new level. Today's tracking systems can record, display and archive the exact location of any employee, both inside and outside the office, at any time, offering managers the unprecedented ability to monitor employee behavior.

Although there's a business case for employee tracking, organizations that implement these technologies can, like the city of Orlando, walk into a minefield of employee morale.

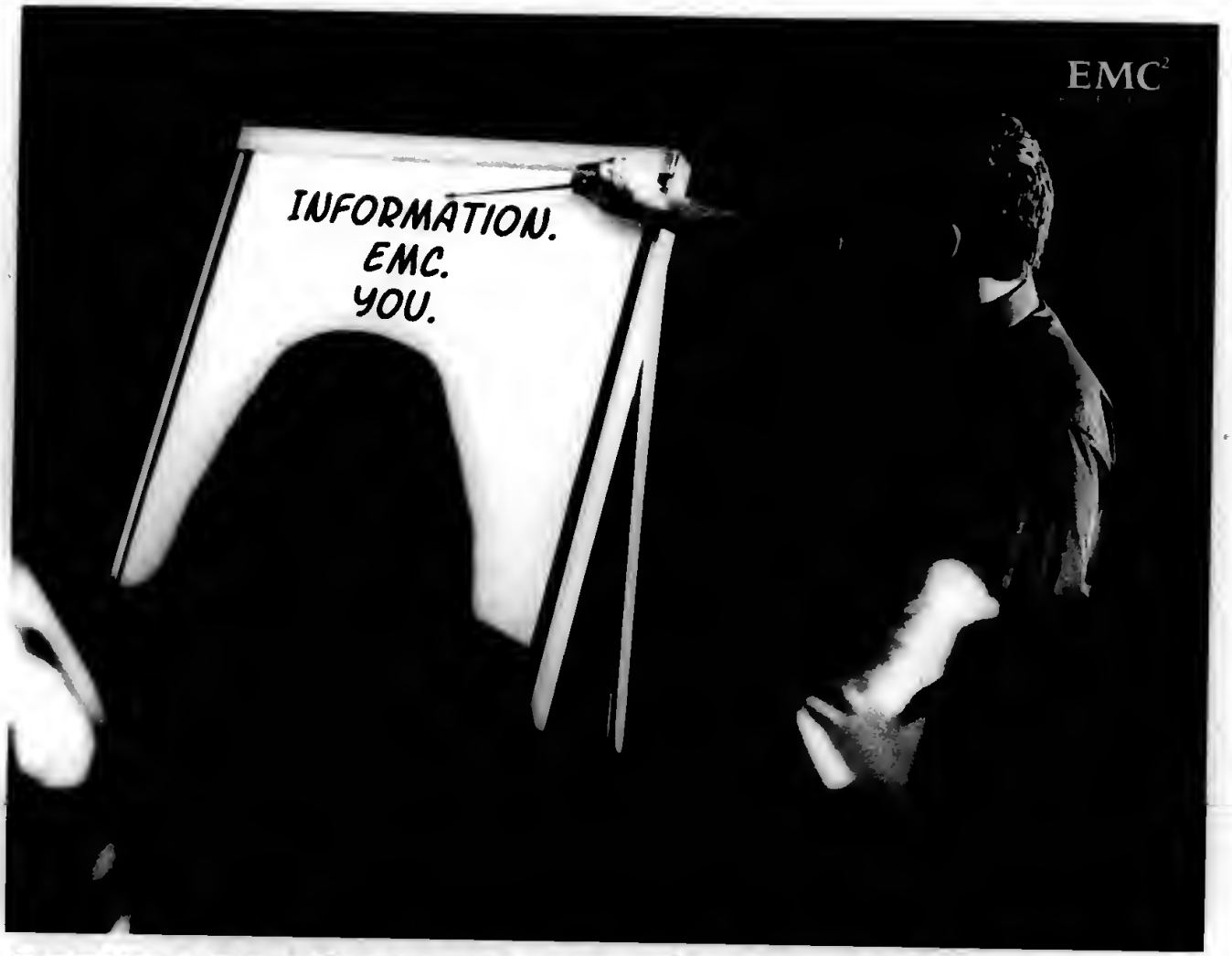
"CIOs must measure expected benefits against potential problems," explains Richard Hunter, a privacy analyst at Gartner Inc. "And even then, CIOs must tread lightly if they want to avoid a user backlash."

Benefits and Risks

On the surface, tracking employees seems like an obvious way to boost productivity. Monitoring the location of truck drivers on the road, for example, allows dispatch offices to route deliveries more effectively, says Steve Vivanco, vice president of technology and marketing planning at Chatsworth,

CAN'T HIDE YOUR Prying Eyes

NEW TECHNOLOGIES CAN MONITOR EMPLOYEE WHEREABOUTS 24/7, BUT CIOs MUST BE PREPARED FOR THE BACKLASH.
BY GEOFFREY JAMES



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CAN'T HIDE YOUR Prying Eyes

Continued from page 35

Calif.-based MobilePlanet Inc., which sells GPS and other portable devices. On-the-road monitoring can make it easier to provide roadside assistance, reduce damage claims and lawsuits, and possibly reduce goldbricking and excessive break times.

Similarly, monitoring employees in the office using RFID technology can help management quickly locate key people and keep unauthorized personnel out of secure areas, reducing employee sabotage and theft. Seen in this way, monitoring becomes an extension of other forms of in-house security measures, such as the monitoring of e-mail and the control of access to corporate computing resources.

"There's a general understanding among CIOs that the biggest security dangers are always from inside," says Bill Packer, CIO at Irwin Home Equity Corp., a lending institution in San Ramon, Calif. He notes, however, that body-tracking technologies are of questionable value inside financial firms like his. But in environments where physical security is essential, the ability to track employees using RFID and GPS could prove valuable, Hunter says.

'The Naked Employee'

Despite the potential benefits, many employees find the tracking technologies to be ominously intrusive, says Frederick S. Lane, author of *The Naked Employee: How Technology Is Compromising Workplace Privacy* (Amacom, 2003). "Employees don't want Big Brother staring over their shoulders," he says. "They're already concerned that they don't have enough privacy, and the new technology frightens them." Indeed, some companies are even thinking of tracking their employees' day-to-day exercise levels and caloric intake, according to Astro Teller, CEO of BodyMedia Inc., a Pittsburgh-based manufacturer of wearable body-monitoring devices.

Candice Johnson, assistant director for the Communications Workers of America, a Washington-based union that represents 700,000 high-tech workers, worries that many employers won't be able to resist the temptation to use technology to create oppressive work environments. "There are companies that limit employees to 15 minutes of restroom time during an eight-hour shift," she complains. "Employees are going to hate the idea of management being able to spy on them all the time."

Although unionized employees, such as the police in Orlando, can fight the monitoring technologies, nonunion personnel have no legal recourse in the U.S., according to James T. Bennett, a professor at George Mason University who studies workplace privacy. "Employers are assumed to own any information that employees create, including information relative to their physical location," he says.

In fact, with a few exceptions, such as video surveillance of restroom stalls, employers can gather any and all information about their employees.

"There's an incredible lack of privacy rights for employees," says Marc Rotenberg, executive director of the Electronic Privacy Information Center. He says employee dissatisfaction and anger will be an inevitable result of any technology that's seen as intrusive.

However, given the lack of legal restrictions, employee tracking is destined to become more common over time, says Tom Austin, a Gartner research fellow. "Social backlash may slow the growth of monitoring, but it's unlikely to stop it," he says.

This isn't the first time that CIOs have had to carefully balance the surveillance capabilities of a technology with human factors. In the 1980s and 1990s, sales force automation systems often failed because employees found them too intrusive.

"Many SFA tools are unsuccessful precisely because the sales staff perceives the software as a monitoring tool instead of as a useful assistant," says Erin Kinikin, an analyst at Forrester Research Inc. She points out that some sales representatives sabotaged SFA systems by refusing to enter data and by finding ways to subvert the systems.

Under similar circumstances, it's likely that salespeople, if forced to use GPS, will "accidentally" run down GPS batteries or "unintentionally" park cars in structures where the GPS won't work. Because of the inevitable passive aggression, "companies who want to get the value of GPS or RFID in terms of helping sales should abandon any thought of using the technology to monitor who goes where," Kinikin insists.

The danger with RFID and GPS is that managers of the "command and control" ilk might overuse the tracking capability and, in the process, accidentally create an unproductive work environment. "The challenge is always to keep people motivated," explains Jack Cooper, former CIO at Bristol-Myers Squibb Co. and now president of JM-Cooper and Associates. "If people aren't motivated and don't want to do their jobs, it doesn't really help to box them in with a lot of rules."

Making it Work

The challenge for CIOs is to implement employee-location technology in a way that maximizes its potential benefits without hurting employee morale. One way to do this is to monitor only those elements of employee behavior that have a substantial effect on profitability. For example, while it may make sense to check whether field workers are where they're supposed to be, obsessive management attention on the physical location of every employee is likely to create resentment. "If it doesn't have to do with the employee's day-to-day work, it shouldn't be monitored," advises Cooper.

It's also important for employees to realize that location-tracking technology doesn't prohibit them from having private lives. CIOs should clearly state what's being tracked and what's not and make it clear that location tracking will be inactive during off-hours. They should also clearly communicate what management is going to do with the data that's gathered.

"It follows the well-established security principle of informed consent," explains Packer. "Most employees understand that it's important for people to be doing the job that they're supposed to be doing and won't object to a reasonable system that helps verify that."

Employees are also much less likely to complain if they feel they have some level of control over the monitoring, even if it's only the freedom to check their own data. "When employees can monitor their behavior, they're more likely to see the system as something that's helping them get their job done, rather than a way for management to spy on them," says Cross.

Hunter puts it this way: "The point of the technology is to help employees to be more productive, not to make them paranoid." **44824**

James, the author of numerous high-tech books and articles, can be reached at www.geoffreyjames.com.

TRACKING THE DRIVERS

Advanced Tracking Technologies Inc. in Houston says its Shadow Tracker GPS product line for managing vehicle fleets can do the following:

or reduce overtime.

paper time sheets in the field with electronic timekeeping.

downtime of field employees.

time spent at unauthorized locations.

actual routes driven and stops made.

how much time was spent on job sites.

the brakes on employee fraud.

According to the company's Web site, "the Shadow Tracker will allow you to jump in the passenger seat and witness your driver's every move."

[redacted]

Here are some guidelines for ensuring that tracking employees with GPS and RFID technologies doesn't cause a backlash:

- **Establish a code of conduct.** Give employees a document that delineates desirable behaviors and discourages undesirable ones. Then there will be less fuss when you decide to monitor behavior.
- **Monitor only what's relevant.** Employees will resent any tracking that goes beyond their job duties. Monitoring that intrudes upon private lives, either on or off the job, is a recipe for morale problems.
- **Give your reasons.** Employees are less likely to object if you explain why it's necessary. Employees want their employers to be successful, if only because they want to keep their jobs.
- **Explain the benefits.** Employees will more readily accept monitoring if they understand what's in it for them. Remind reluctant employees that reducing goldbricking means honest workers won't have to pick up the slack for others.

Battlefield LEADERSHIP

BY KATHLEEN MELYMUKA

IT executives find lasting lessons at Gettysburg

ON JULY 3, 1863, 12,000 Confederate soldiers under the command of Gen. George S. Pickett charged the Union troops on Seminary Ridge at Gettysburg in the bloodiest battle ever fought on U.S. soil. A collage of misunderstandings, misinformation and miscalculations ensured their defeat, and by day's end, two-thirds of the Southern soldiers were dead or captured. The Confederates would never recover.

Each October, a group of IT leaders walks the hills and hollows of the Gettysburg battlefield retracing Pickett's Charge, but they aren't studying history; they're studying business.

Dick Dooley, a founding member of the Society for Information Management and creator of the Leadership Learning Forums, and Hal Nelson, a military historian and retired U.S. Army general, have combined two learning strategies to create a new coocept in IT executive education: the battlefield leadership seminar.

For Nelson, the seminars are grounded in a long Army tradition of "staff rides," in which military personnel visit battlefields to study leadership. For Dooley, the basis is "cross-industry field trips" in which IT people move out of their comfort zones to absorb leadership lessons in a different environment.

"We found that if we took bankers to a bank, they didn't see what we wanted them to see," Dooley explains. In a familiar environment you "know it all" and are less open to learning. Bring those bankers to a battlefield, and suddenly they're novices again. "Against the background of your ignorance you can see things in higher relief," Dooley explains. "You can turn your ignorance into a learning element."

"It's interesting to be taken completely out of the normal context," agrees John Fisher, CIO at Smith-Bucklin Corp. in Chicago, who recently walked the Gettysburg battlefield. "You're much freer to challenge your perceptions and assumptions and more able to take in lessons."

Kicking Rocks

The seminars take place at Gettysburg and the battlefield at Normandy. A typical day starts with a historical lecture for context. Then the group moves around the battlefield. They look at who had the initiative, whicb side was on defense, what the commander was trying to do to maintain the initiative, what the plans were, what the difficulties in executing the plans were and how enemy action modified the plans and execution. They talk about executive succession planning — a high priority in battle — and the characteristics of high-performing leadership teams. "We look at emergent leaders," says Nelson. "What difference does it make if three, four, five echelons down, the leaders do understand what the organization is trying to do and act with imagination to achieve those ends?"

He adds, "We also enjoy the fresh air and kick the rocks."

Some participants question the link between war and business, but not for long. "Plenty of people don't think they can learn mucb from a military organizatioo because the leaders just give orders and people carry them out or they get flogged," Nelson says. "But armies are large human organizations characterized by bumao activity like workarounds and foot-dragging. You see a lot of that on the battlefield, so that brings a big 'Aha!' People realize leadership makes a difference."

"War is about leadership, and business is about leadership," agrees Linda Fraley, CIO at Lincoln National Life Insurance Co. in Hartford, Conn. "The fact that one takes place on a battlefield and one in a skyscraper probably is oot material. The issue is the courage it takes to lead."

AP PHOTO | CARLYN KAISER

Re-enactment of the Battle of Gettysburg, Aug. 10, 2003

HISTORY'S LESSONS

The connection between the Battle of Gettysburg and life in IT may not be immediately apparent, but participants in battlefield seminars have drawn interesting parallels. Here are just a few:

HISTORY	LESSON
Robert E. Lee and Stonewall Jackson had a tremendously trusting relationship. When Lee lost Jackson, his new direct report, James Longstreet, hadn't yet earned that level of trust when he argued forcefully against George S. Pickett's charge. Lee ignored his advice, and the battle was lost.	Trust among the executive team is critical.
The Confederate army communicated primarily through signal flags, which were highly unreliable because of smoke and weather conditions. The Union had the advantage of rudimentary telegraph for more efficient and effective communication.	Effective use of communications technology can enable a company to excel.
President Lincoln's goal was preservation of the Union, but the war didn't gain wide support in the North until he signed the Emancipation Proclamation, making it a fight to end slavery.	When trying to lead change, choose your issues carefully.
The North moved supplies in a supply train. The South didn't have an enterprisewide supply-train effort and Confederate soldiers were often distracted by the need to live off the land.	A better supply chain is a competitive advantage [QuickLink 42368].

Making Connections

The seminar helps participants make those kinds of connections. However, "it's not a how-to kind of seminar," Fisher says. "You are challenged to think about things and try to understand your assumptions and your way of approaching things. It shows you the consequences of actions. You're left to figure out how to apply that yourself wheo you go back. It's not easy."

Participants have drawn a wide range of lessons and applied them in a variety of ways. For example, "don't try to make a cavalry guy work the artillery," Fraley says. "You're not doing anyone a favor by keeping someone in the wrong position. You won't just lose that person; you may lose the entire flank."

"At Gettysburg, the Union's ability to get messages to Washington was very good, but the ability to get messages point to point on the battlefield was troublesome," says Vince Kellen, vice prosideot of informatioo systems at DePaul University in Chicago. "The same thing happens in corporations where the executive visiton can be stated but the ability to interpret that two levels below is troublesome," be explains. "So we've focused our structure in IT on that close communicatioo so everybody is kept in better alignment."

Robert E. Lee badly underestimated the size of the Union army he was about to confront because the cavalry — his eyes and ears — was out in the countryside, Fisher says. "We think everybody has the same base of information we have, but they don't. You really do need to make sure everyone knows what you know all up and down line. If they doo't, people will make decisions based on the informatioo they have."

Some might say it's crass to use life-and-death struggles to illustrate business leadership concepts. But Nelson says the differences and similarities between the two are part of the perspective the seminar brings. "Maybe people are too convinced that they're in a life-and-death struggle at work — and they aren't," he says. "They're doing a hard job to the best of their ability. But that's what people do in life-and-death struggles." 44807

Melymuka is a Computerworld *contributing writer. She can be reached at kmelymuka@yahoo.com.*

ThinkTank

BRAIN FOOD FOR IT EXECUTIVES

The Payoff From IT Marketing

STEAL THIS IDEA

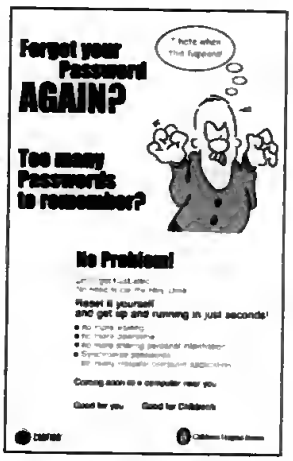
Medical staffers at Children's Hospital Boston are far more interested in treating children than in learning new IT procedures, which they avoid like the plague. But the IT department recently learned that by making the work of the busy doctors and nurses a bit easier – and by doing some savvy marketing – it could overcome user resistance.

The issue at hand was the need to beef up security compliance while also making it less cumbersome for users to log into the hospital's various systems, explains Scott Ogawa, chief technology officer. The systems had different password rules – for example, one required eight characters with no numbers, while another required 10 characters with numbers and special characters – and users frequently got locked out. So the hospital selected account provisioning and password management software from Courion Corp. in Framingham, Mass. The software allows users to reset all of their passwords without calling the help desk. "And that's what turned [user perceptions] around," Ogawa says.

It helped that the IT department developed a full-scale marketing program, including presentations to department heads, training for power users (important for generating good word of mouth), "desk tent" cards with instructions, posters in the lobby (see right) and mass e-mails. The result has been a 75% adoption rate.

"It wasn't a complex project, but it's been the single most positive IT project for the users," Ogawa says. "We've gotten numerous accolades."

– *Mitch Betts*



By marketing a password management system, Children's Hospital got a 75% adoption rate.

Best Bits

The most useful parts of recent business and IT management books:

THE BOOK ***Technology Paradise Lost: Why Companies Must Spend Less to Get More From Information Technology***, by Erik Keller (Manning Publications Co., 2004)

The cost-consciousness of the past few years wasn't just a passing phase. The author says we're living through an "IT inflection point" in which we leave behind the irrational exuberance of IT spending in the 1990s and enter an era of relentless focus on the bottom line. As the subtitle suggests, the book's central argument is that companies can make progress without large increases in their IT budgets. Keller cites companies such as Motorola Inc. and Merrill Lynch & Co. that used to spend lavishly on IT but have cut back with great success.

"For years, corporate use of IT has been plagued with overcomplexity, redundancy and wastefulness," Keller says. "That is about to change." The book argues that lower costs from offshore outsourcing, cheaper hardware, open-source software and pay-as-you-go computing will make it possible to really do more with less money. – *Mitch Betts*

Things to Ponder

- **Ask 10 people what "IT governance" is and you'll get 10 different answers.** In an attempt to clear up the confusion, Gartner Inc. offers this definition: "IT governance specifies the decision-making authority and accountability to encourage desirable behaviors in the usage of IT." Rival AMR Research Inc. has another version: "IT governance is a process for managing and controlling the use of technology to create value for the organization." But an Australian firm called Project Perfect Pty. has the simplest definition of all: "IT governance is the rules and regulations under which an IT department functions."
- **Customer-service issues – such as loyalty and retention – will be the central focus for IT spending over the next 12 months,** according to 48% of 200 IT and business executives surveyed by Boston-based AMR Research. **44817**

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ThinkTank

The Payoff From IT Marketing

STEAL THIS IDEA

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Easy Credit Online

The credit card companies that make it easiest for consumers to apply for a new credit card online

1. First USA Bank NA
2. Juniper Financial Corp.
3. Providian Corp.
4. Discover Financial Services Inc.
5. FleetBoston Financial Corp.

Things to Ponder

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The IT Economy

■ **Tracking the economy could give you whiplash these days.** The dollar is falling. The stock market is rising. There are huge trade and budget deficits – and record-low interest rates. Corporate profits are up, and the recovery is jobless. "I don't recall a period even remotely like this," says Federal Reserve Board Chairman Alan Greenspan, referring to the jobless recovery. "What we are seeing is something new," he says.

■ **In the IT industry, mass layoffs seem to be over, and customers are planning to spend a bit more this year, but there's no sign that large-scale hiring will pick up anytime soon.** Instead of hiring more workers to gear up for new business, companies will add to payroll "as their business grows and not beforehand," John Challenger, CEO of Challenger, Gray & Christmas Inc., told *The Dallas Morning News* last month.

Corporate Technology Confidence Index

The index rebounded in January, as corporate IT buyers decided that they'll be spending more on hardware and software in the coming months.

Aug. Sept. Oct. Nov. Dec. Jan.

Base: 201 corporate IT buyers. An above-zero score indicates more positive responses than negative.

SOURCE: TECH-ECONOMY.ORG, STANFORD, CALIF.

Career Watch

Robert W. Reeg

Q&A

Title: Senior vice president of systems development

Company: MasterCard International Inc., O'Fallon, Mo.

What he does: Oversees an IT staff of 600, which recently completed a five-year, $160 million systems overhaul. He is this month's guest advice columnist, answering questions from our readers on career topics. If you have a question you'd like to pose to one of our Premier 100 IT Leaders, send it to askaleaders@computerworld.com.

My career goal is to be a CIO of a major corporation. I have been working in IT for over 20 years and hold a master's degree in computer information systems. Would it be to my advantage to earn an MBA? At this point in your career, having an MBA degree wouldn't necessarily be a requirement. More important are the experiences you've gained and the assignments you've completed. One trap that some people fall into is the repetition of the same experience. While you have 20 years' experience in the workforce, have those years encompassed a wide variety of assignments and positions of responsibility? Does your career show a history of job progression? Twenty years as a programmer/analyst won't serve as a platform for success at the CIO level. Your ability to be successful in a wide variety of roles is as important as having the degree.

I am currently the CIO at a small company but would like to move up. There is no opportunity in this company. How crucial is an MBA to finding a CIO or director-level job at a medium-size to large company? I would recommend that you get involved in technical boards or forums in your area. Many areas have regional CIO forums that can give you a chance to interact with peers. Second, if you enjoy your current company, don't be afraid to "move up" outside of the IT area. Gaining a line of business experience can be key in building your résumé for that next IT job.

I have just finished my MBA and would like to pursue opportunities in IT management. What is the best path to get your foot in the door as an IT manager? From your question, I can't tell if you have a technical background already. Lack of a working knowledge of the technology you will be responsible for makes it harder to be successful as a manager. Look to build a solid technical experience base. After gaining technical experience, look for project manager opportunities. Having a technical base and project management skills should position you for more demanding roles in IT management. **44803** – *Julia King*

Where CIOs Come From . . .

Larger companies are more inclined than small and midsize enterprises to cherry-pick from among their own executives for a new CIO. Nevertheless, two-thirds of all senior IT executives are recruited from outside, according to a just-released survey of 607 companies. Analysts speculate that the results indicate that larger companies have a broader pool of candidates from which to choose. Also, they say, company knowledge is a more important CIO selection criterion for companies with annual revenues exceeding $1 billion.

. . . And What They Earn

CIO AT LARGE COMPANY		CIO AT MIDSIZE COMPANY	
2003 mean base salary	$145,753	2003 mean base salary	$143,042
2003 total mean*	$165,329	2003 total mean*	$171,795
2004 mean base salary	$147,606	2004 mean base	$145,214
2004 total mean	$167,508	2004 total mean	$176,357

*Includes bonuses, stock options and so on

BASE: 205 large enterprises with annual revenues of more than $500 million and 301 medium enterprises with revenues up to $500 million

SOURCE: JANCO ASSOCIATES INC., PARK CITY, UTAH

Where the Jobs Are

106,000
Projected number of new network systems jobs by 2012

179,000
Projected number of new applications software engineering jobs by 2012

77%
Percentage of high-tech companies planning to increase U.S. head counts in 2004

2%
Percentage of high-tech companies planning to decrease U.S. head counts in 2004

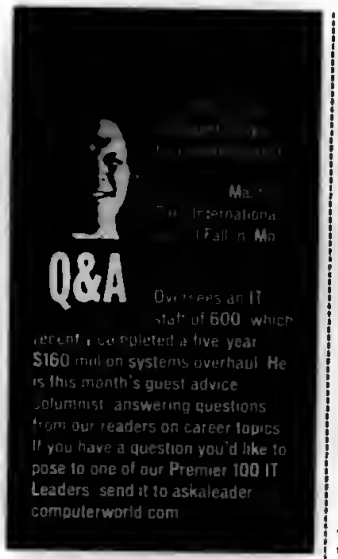
Managing Your Business Priorities

As IT organizations look beyond cost-cutting to focus more on creating and demonstrating business effectiveness, IT managers should have four primary objectives, according to Meta Group Inc. in Stamford, Conn. They are creating an IT culture of value management, mastering IT portfolio management, increasing employee productivity and refining core IT processes so they are understood, consistent and scalable.

Harry Roberts, senior vice president and CIO of Boscov's Department Stores LLC in Reading, Pa., put it more succinctly: "Without IT, a company simply cannot exist. We enable everything, from efficiencies in the manufacturing and supply chain processes to taking costs out of a business so it can make a profit. Every CIO I know who is successful is the most knowledgeable about their business – much more so than technology. They can surround themselves with other people for that."

– *Julia King*

Career Watch



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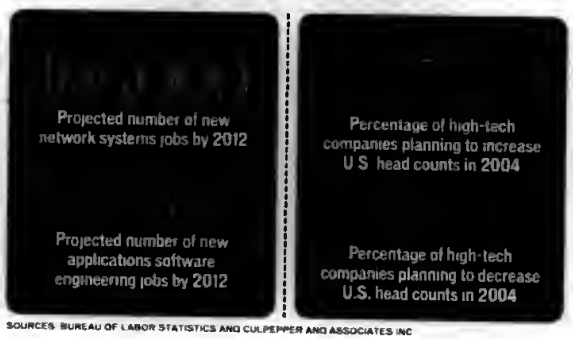
SOURCES: COMPUTER SCIENCES CORP. AND FINANCIAL EXECUTIVES INTERNATIONAL "2003 ANNUAL REPORT OF TECHNOLOGY ISSUES FOR FINANCIAL EXECUTIVES"

. . . And What They Earn

*Includes bonuses, stock options and so on

Where the Jobs Are



SOURCES: BUREAU OF LABOR STATISTICS AND CULPEPPER AND ASSOCIATES INC.

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PAUL GLEN

What Kind of Manager Are You, Anyway?

IT'S OFTEN SAID that there are two types of managers: those who manage things and those who manage people. And a great divide of misunderstanding lies between them, rarely to be crossed or reconciled.

The managers of things are those who see the world through the lens of stuff. They focus their attention on production, processes, projects, materials, milestones, methods, deliverables and details. They share an orientation with engineers who tend to focus on the what and how of life more than on the who.

Paul Glen is an IT management consultant in Los Angeles and the author of the award-winning book *Leading Geeks: How to Manage and Lead the People Who Deliver Technology* (Jossey-Bass, Pfeiffer, 2003; www.leadinggeeks.com). He can be reached at [illegible]

Oo the other hand, the managers of people see things though the lens of relationships. Where managers of things see matter, managers of people see humans who happen to be working with matter. They focus their attention on culture, politics, leadership, teamwork and organizational designs.

In this conception, the people orientation is usually represented by senior executives, and everyone below them falls into the category of managers of things. The divide is often cited as one of the key reasons for difficulty with business/IT alignment. CIOs and CEOs talk past each other; they view the same world through different lenses, and each is unable to understand the other's perspective.

So which kind of manager are you? Be honest. You might pay attention to both perspectives, but most people have a primary and secondary orientation. We seem to come prewired with a bias toward one or the other.

If you honestly can't answer this question, you may fall into a third category. Over the past decade, we in IT have created jobs that call for an orientation distinct from either things or people. I call the people who naturally fit into these jobs the managers of abstractions.

Managers of abstractions see things through the lens of theory. Where most of us see projects and people, they see examples of theories almost as expressions of pure Platonic forms. (The Greek philosopher Plato believed that physical things drew their characteristics from abstract categories or forms in which they participated. So, for example, a horse was a physical thing that participated in the form of horseness and expressed the features of the form.) These managers are most comfortable with the world of the conceptual, with ideas disassociated from specifics.

They have titles like "director of project managemeot," "chief security officer," "czar of quality" or "overlord of strategy." Where most managers are focused on ends, these managers are responsible for particular features of the means to those ends. Their jobs are to oversee the adjectives and adverbs, rather than the nouns and verbs of IT. While most managers are responsible for delivering products and services, abstraction managers work to ensure that other managers deliver efficiently, effectively, securely, consistently and appropriately.

Abstraction managers have hard jobs. They're responsible for developing and interpreting theory and applying policy to projects. They are always in danger of being viewed and — perhaps more dangerously, of viewing themselves — as a priesthood, as mediators between the temporal and spiritual realms. Their relationships with both the managers of people and the managers of things are frequently strained. Without the power to produce, they're frequently viewed as having only the power to obstruct on ideological grounds. That's why many project management offices are viewed as the process police and not considered the midwives of progress and productivity [QuickLink 43741].

Can you find yourself now in this tripartite taxonomy of managerial orientation? Is your natural interest in people, things or theory? There is no right or wrong answer, but there may be better or worse assignments for individuals of each perspective.

As IT has become pervasive in business organizations, it has become increasingly important that technical managers appreciate the different outlooks. Working effectively with stakeholders of IT at all levels requires the following skills:

- Knowledge of your own natural perspective.
- Awareness of other managers' perspectives.
- The flexibility to view reality through all three lenses.
- The wisdom to reconcile the issues and options that differ between them.

If you develop the ability to recognize and reconcile all three perspectives, everyooe will know exactly what kind of manager you are — a good one. **44887**

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IT Careers in Northern California

The promise from high tech corporate leaders was that the offshore movement of jobs would lead to more high-end jobs versus a simple loss of work. While the debate continues, there are some interesting trends in northern California that point to a future that is shaping itself differently, but that includes opportunity.

Among the trends is an on-shoring of executive jobs. Over the past two years, a number of foreign high-tech firms have hired CEOs to staff northern California offices – ranging from TakAsic, a French chipset maker, to the government of New Zealand's office in Redwood City, known as Silicon Valley Beachhead. Foreign companies say that while they can offer services and produce at a lower cost, the northern California region offers them two things they need – funding and a workforce that knows how to create technologies.

The influx of foreign companies, along with a migration of jobs from straight software and hardware development to use of high tech in other fields, has slowed the job drain from northern California. Economic development leaders say that 20% of employers in the northern portion of the state plan to hire in 2004. The challenge, they say, will be to transform the educational system and community services to meet the new opportunities.

It's not the first time the northern California peninsula/valley region has remade itself. Formerly a haven for defense contractors, the area later turned to development of communication devices, hardware and in the 1990s software. Today the region employs better than 100,000 software developers. Doug Henton, president of Collaborative Economics, estimates that new jobs will develop in the next five years but will take software development into new areas – such as genomic research and new-age satellite positioning and communications.

Genomic Health Inc., one of many medical high tech companies in the region, was founded in August 2000 to provide genomic analysis of tumor biopsies. The company illustrates the overall shift in Silicon Valley futures when it comes to jobs. Senior biostatisticians need higher-level statistics degrees, as well as programming expertise with SAS and S+ programming. Assay developers, who will develop the trial and research methodology, need bio life sciences experience, but also experience with programming and data mining.

Also in hiring mode, Lockheed Martin Space Systems in Sunnyvale has similar job complexity. Software engineers need experience in development, but in critical design skills as well, to include modeling and simulation. While Space Systems' commercial business remains flat, work on new communications networks that enable security and defense are growing. Dozens of jobs – from tech support to high level integration – are listed on the organization's website.

Karen Strella, principal at executive search firm Egon Zehnder, says the growing pharmaceutical and biotech community in the region is key to future job growth. "Since 2003 was the worst year ever, we're seeing 100% growth this year in terms of the number of assignments we're getting as well as those of our competitors. Technology is the enabler to moving new drugs through trials quickly, and it's also the foundation for bioinformatics used in biotech. IT professionals with a combination of tech and life sciences understanding are in high demand. We're also seeing a huge need for leaders of research and development organizations. There's a very small universe of people who do this well.

"The second area (of demand) that we're seeing is commercialization of R&D. The pharma and biotech companies are importing this ability from software, commercial and retail professionals."

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Computer Professionals (Multiple Openings)

Software Engineer/Systems Analyst/Database Administrator/Network Administrator Casper, WY

Must have bachelors degree or equivalent and experience in some of the following skills C/C++ Java Web Methods Cold Fusion Microsoft Technologies (Visual Basic .NET ASP) CRM (Siebel Clarify Vantive) Middle Ware Technologies (Orbix Corba Tibco Vitria) Data Ware Housing Tools (Informatica Data Stage Abinitio Business Objects Cognos Micro Strategy Brio) ERP (SAP People Soft Oracle Apps Baan) Mainframe (Cobol CICS JCL VSAM) AS400 Ecommerce Databases (SQL Server/ Oracle/DB2/Sybase) Microsoft Windows(95/98-NT/2000 Exchange) UNIX (Sun Solaris HP AIX) Linux and QA (Win Runner Load Runner Silk Quick pro Manual Testing)

Must be willing to travel and/ or relocate to various places in the United States Mail your resume to

Human Resource Director
AMSOL Inc.
2510 E 15th Street Suite # 5
Casper WY 82609-4111

Software Engineer Sought by Englewood Colorado consulting company to work in various unanticipated locations throughout the U S Duties Develop create and modify general computer applications software or specialized utility programs including financial and business applications Analyze user needs and develop software solutions Design software or customize software for client use with the aim of optimizing operational efficiency Analyze and design databases within an application area Use of COBOL/COBOL II VSAM DB2 CICS and JCL Reqs Bachelor or equivalent in Computer Science or related field Plus 2 years in the job offered or 2 years in a related occupation including Programmer Analyst Systems Analyst or Consultant Will accept 2 years college education and 5 years related experience in lieu of required education and experience $81 000/year 40/hrs/wk 8AM-5PM Respond by resume to WORKFORCE DEVELOPMENT PROGRAMS PO Box 46547, Denver CO 80202 and refer to Job Order No COS0068348

COMPUTER
Siebel Systems, Inc has employment opportunities for Tech Instructors in Alpharetta GA Education and experience requirements vary Apply online at http://www.siebel.com/adresume or forward your resume referencing Job# 2521 to: Siebel Systems, Inc. Attn Corporate Recruiting, 2207 Bridgepointe Parkway, San Mateo, CA 94404 EEOE

Business Management Systs Consultant, Atlanta & various sites in US consult w/ & deliver/implement management systems needs & problems for corp clients, recommend new or revised technology to manage business operations, coordinate implementation maintenance, upgrade, support of system, training of users & documentation, ensure quality customization done w/in budget, time constraints, Req Bach Degree in Bus Admin MIS or BIS or related + 2 yrs in job offered or as Management Consultant - corporate management consulting. Mail resume to Netlink 7306 Roswell Rd, # 6, Atlanta, GA 30328

Computer Security Analyst sought by network security device manufacturer in Broomfield and other unanticipated job sites in the U S to monitor actual and attempted access to computer networks in computer security operations center Monitor and implement security measures to safeguard information in computer systems networks to protect against accidental or unauthorized modification destruction or disclosure Receive telephone calls from users having computer system security problems on computer security operations help desk/response team answer questions applying knowledge of computer software networking hardware and procedures Utilize tools such as firewalls, virtual private networks and security intrusion detections systems Monitor and modify security parameters remotely respond to fault alarms Talk to internal and external computer security organizations to recommend changes to programs Requires 2 yrs exp on help desk/response team answering questions applying knowledge of computer software networking hardware and procedures working knowledge of firewalls virtual private networks and security intrusion detection systems. M-F 8am 5pm $85 000/yr Respond by resume to Employment Programs, PO Box 46547 Denver CO 80202 and respond to JON CO5068599

WEB DEVELOPMENT ANALYST III

ADT Security Services Inc has multiple openings in Boca Raton Florida for Web Development Analysts III

Analyze business procedures and problems to develop specifications and convert them to programmable form for electronic data processing Confer with organizational units involved to determine specific web output requirements Study existing data systems to evaluate effectiveness and develop new or modify current web systems to improve production workflow

Must possess at least a bachelor's or its equivalent in Computer Science or a related field and relevant work experience Experience must include J2EE Certification (Sun Microsystems, etc.) web development experience including Electronic Data Interchange (EDI) and experience with Oracle SQL WebSphere Administration and XSLT

Resume and/or cover letter must reflect each requirement above and specify reference code WDA/SSS or it will be rejected

Forward resume to Theresa Maia ADT Security Services Inc One Town Center Road Boca Raton FL 33486

Seeking qualified applicants for the following positions in Memphis/Collierville TN Senior Technical Analyst Research evaluate implement and coordinate changes to computer systems/applications Requirements Bachelor's degree* or equivalent in computer science math engineering or related field plus 5 years of experience in systems/applications development, including programming Experience with Java Jkarta Struts architecture and WebLogic application server technology also required *Master's degree in appropriate field will offset 2 years of general experience Submit resumes to Sita George, FedEx Corporate Services, 1900 Summit Tower Blvd, Suite 1400, Orlando FL 32810 EOE M/F/D/V

STAFF IS ANALYST/ ORACLE DB ADMIN

Resp for the installation config & maintenance of proprietary Oracle dbase mgmt sys Specific duties incl (i) analyzing planning designing developing implementing & documenting complex info technology projects (ii) coordinating Oracle dbase planning capacity planning & Oracle related standrds (iii) validating project plans & activities to ensure successful implementation (iv) solving complex info technology problems & providing effective solutions (v) incorporating approved changes & new technologies into existing systems & services (vi) preparing & tracking project implementation plans incl project cost/benefit analysis (vii) debugging Oracle coding & (viii) participating in Quality improvement Process B S in Science-related field reqd + 2 yrs exp in position offered or as a Dbase or Sys Admin Exp must incl installation maintenance & service of Oracle-based dbases in UNIX & NT platforms utilizing Oracle 7 8 & 9i V6 Basic DEM & shell scripts computer tools 40 hrs/wk OT as reqd 8 am - 5 pm $82 500/yr Qualified applicants submit resumes to See Manager Beaver County CareerLink 2103 Ninth Avenue Beaver Falls PA 15010-3957 Please refer to Job Order No WEB 383791

Sr Computer Security Engineer sought by network security device manufacturer in Broomfield CO to work in Broomfield and other unanticipated job sites in the U S to act a senior level research evaluate recommend and implement high-end fault-tolerant data communications networks that utilize TCP/IP protocol routers switches and Checkpoint firewalls. Develop procedures for installation use and problem solving of data communications networks addressing customer requirements and security issues Assist users to identify and solve data communication problems. Oversee installation of data communication and networking hardware Engage in project management as required Requires master's or foreign equivalent in computer science or related field including telecommunications engineering, 1 yr exp implementing high-end fault tolerant data communications networks that utilize TCP/IP protocol routers switches and checkpoint firewalls CCSE and MCSE certifications M-F 8am-5pm, $108 000/yr Respond by resume to Employment Programs, PO Box 46547 Denver CO 80202 and respond to JON CO5068585

Network Eng to design install & maintain computer networks using Foundry Serveriron XL switches Cisco 2500 4000 & 7200 router Cisco 2950/3550 & HP Procurve switches Cisco PIX 515, Sangoma T1 cards Netscreen TCP/IP Subnetting DNS SNMP GP4 RIP OSPF SMTP DHCP on Linux Sun & Win Platforms consulting on network design arch network security through firewalls IDS, administer email servers in MS Xchange & qmail disaster recovery troubleshoot servers on various operating sys design high availability clusters on all platforms for private mss uptime Comp Salary $65 in Electronics Eng Or equiv + 2 yrs exp in job duties Apply to Vertex Soft, Inc. 2 Lavender Drive Princeton NJ 08540 with proof of permit Work autho

National Amusement Network Inc seeks Senior Java Developer to work in Fort Collins, CO. Provide direction and technical assistance to team of Java developers engaged in designing and developing embedded software systems for automated coin-operated equipment and customer interfaces using open source software. Requirements include Bachelor's in computer science or closely related field; working knowledge of designing and developing embedded software systems and customer interfaces for coin-operated equipment using open source software; Java certified programmer such as Sun certified programmer for Java. Respond via resume to: Steve Benoit, NANI, 1133 Laporte Ave, Fort Collins, CO 80521, referring to #4790HZ.

Sr. Software Engineers needed at client sites to dvlp & test projects using C++, HP UX, CORBA, Oracle, PL/SQL, XML & IBM MQ Series, integrating subsystms & analyzing & dvlpg systms providing product support & enhancements. Perform data migration, unit testing & integration testing. Send resume to: Glober Consultants, Attn: Hireme, 25 Airport Rd, Morristown, NJ 07960.

SOFTWARE ENGINEER (Lincolnshire, IL) experienced wanted by US office of electronics manufacturer to develop company's e-commerce and transport warehouse management systems. Must have knowledge of EXCEED, i2, WebMethods, WebServices, JAVA Servlets, J2EE, JSP, EJB, DB2 400. Respond to: Linda Walsh, HR Manager, LG Electronics USA, Inc., 2000 Millbrook Drive, Lincolnshire, IL 60069 or fax to 847-941-8200.

Software Engineer. OmniPros, a worldwide provider of software solutions seeks motivated Software Engineers, Network Administrators/Engineers, IT Analysts and Business Development/Technical Operations Management. Multiple Positions available in Chicago IL and San Jose, Ca. Please e-mail resume to: careers@omnipros.com, fax resume to: 408-944-0719, or mail resume to: OmniPros, Ltd., 99 W. Tasman Drive, Ste 205, San Jose, CA 95134.

Programmr/SW Enginrs/ Analysts needed. Candidates to possess MS/BS or equivlt and/or relevt work exp. Work with some of the following: Visual basic, ASP, VB Scrpt, Java, Javascript, XML, XSL, Cold Fusion, MS Project, JDBC. Must be willing to travel and relocate as requ'd. Fax resume to Gebbs Software International. Fax 201-227-2060. Attn: HR Dept.

Software Engineer. Framingham, MA. Analyze, design, develop, test and customize client/server architecture using Oracle, VAJ, DB2, JDBC, WAS, Silkperformer, Teamsite, XML, IBM Directory Server and Java. Provide Technical support. Req'd: Bachelors in Computer Science or Engineering or Math + 1 yr. exp. in job offered. 40 hrs/wk, 9:00am-6:00pm, Mon-Fri, $65,000/yr. Mon-Fri. Submit two (2) copies of resumes in response to Case #200203583, Division of Career Services, Labor Certification Unit, 19 Staniford St., 1st Fl., Boston, MA 02114.

Software Engineer. TX and at various client sites in US. Perform analysis, design, development, deployment of web based applications with JAVA/J2EE architecture, provide E-commerce solutions. Use JAVA, EJB, JSP, SERVLETS, XML, XSLT, JAXP, LDAP, Java Script & DHTML. Develop client side & Intranet applications. Req: Bachelors in Computer Science or related + 2 yrs in job or 2 yrs as Programmer Analyst for web-based applications. Mail resume to: HR, Database Resources Inc., 5700 Glenview Ln., The Colony, TX 75056.

Amtex provides high-quality end-to-end software solutions. We need IT professionals to develop software system, write SQR to load data from legacy system to PeopleSoft, use PeopleSoft Financials (GL, AR, AM, AP), Oracle, SQR, Cobol, SQL. Contact: info@amtexsystems.com. EOE.

Programmer/System Analysts, Software/Project Engineers wanted by Atserv Inc. Minimum requirement is BS plus experience using Oracle, Visual Age, Visual InterDev. Position is long term. We sponsor H & green card. Competitive wage plus benefits. Apply at: murali@atserv.com. EOE.

IT Professionals needed. Bristol, PA company is seeking qualified candidates for several senior and mid-level positions including: Software Engineers, Programmer Analysts, IT Business Managers. Requires MS/BS or equivalent and/or rel. work exp. Email res., ref. & sal. req. to: resume@suryasys.com

Senior Software Engineer sought in Boston, Massachusetts area for development of internet based software for financial and administrative functions of healthcare organizations. Requirements are Bachelor's degree in engineering or the equivalent, and two years experience in VB/VBScript, Java/JavaScript, SQL Server, System Domain administration, HTML/XML, relational databases, IIS, networking, client/server, N4 0/2000, and Microsoft development tools. Send applications to: Recruitment, Req. No. 2083, P.O. Box 1070, Burlington, Vermont 05402-1070.

SOFTWARE DEVELDPER wanted by remote monitoring system co. in Houston, TX. Must possess degree & exp. Respond by resume only to: HR Dept., M/A - #10, V Monitor Inc., 10000 Old Katy Rd., Suite 100B, Houston, TX 77055.

Web/Database Application Developer. Create, maintain and support Web/Database applications. Develop and maintain online store program. Design, develop and maintain company website. Bachelor's degree in computer science or in electrical engineering and two years related experience. Send resume to: Chang-Sheng, Inc., HR Dept., 10641 Harwin Drive, Suite 502, Houston, TX 77036.

COMPUTER SOFTWARE ENGINEER for North Bergen based telecommunications co. to develop, create and modify applications software and specialized utility programs. Min. req. BA + 4 yrs. exp. in telecommunications industry. Send resumes to: Tele Express Telecommunications XII, 7800 River Road, North Bergen, NJ 07047.

Senior Developer to work w/ PM4CICS in Tampa, FL to lead software development team in analysis/research of info. to oversee coordinate production analysis, design, testing, training of computer software developed in Assembler, Cobol, C++, and Rexx on IBM mainframes incl. CICS exits/ frenhancing product functionality. Req. B.S. in comp. sci. info. sys. or rel. field (or equiv. based on educ. and/or exp.) + 5 yrs. exp. in job offered or 5 yrs. system programming exp. w/ CICS Transaction Server/CICS related software. Resumes to: C. Longworth, CommerceQuest, Inc., 2202 N. West Shore Blvd., Suite 600, Tampa, FL 33607.

Seeking DBAs & Oracle DBAs ($70-75K) Oracle ProC Developers & Systems Analysts ($84-86K) for various US locations. BS/BA in relevant field + 2yrs exp. Resume to: Upp Business Systems, 3075 Highland Parkway, Downers Grove, IL 60515.

Computers - Programmer Analysts needed. Seeking qual. candidates possessing MS or equiv. and/or relevent work exp. Part of the req. relevent exp. must include 1 year working with Tuxedo & Tibco. Duties include: Design, develop & maintain software systems according to client specifications. Design & develop code instrumentation framework for online monitoring of OLTP system. Work with C/C++, Java, Unix, Informix, MQ, Tibco & DB2. Mail resume & ref. to: Object Solutions, Inc., Attn: HR, 3025 Harbor Lane, #312, Plymouth, MN, 55447-5119.

Computer Operations Manager. Hallandale, FL. Plan, evaluate, develop and implement customer service and Call Center projects to companies interested in the Hispanic and Latin American market. Diagnose and design telecommunications networks and VOIP software & hardware for E-1 systems. Control operational budget and expenditures. Manage, maintain and expand IT disaster recovery and contingency plans. Firm wide Knowledge of Hispanic/ Latin markets & Spanish preferred. BS Elecincal Engineer or equivalent plus 2 yrs exp in job offered. Fax resume to: Viga Corp. attn: Human Resources at 954-455-5858.

Senior Software Engineer (with Masters degree and 3 years experience or Bachelors and 6 years of experience) - Job entails and requires experience in design and development of commercial applications using DB2, Cobol, JCL, CICS and TSO/ISPF. Attractive compensation package. Send resume to: Catherine Fanucchi, 65 Water Street, Norwalk, CT 06854.

ENGINEER, ELECTRONICS/ SOFTWARE RESEARCH (Lincolnshire, IL) wanted by multinational electronics manufacturer with R&D Center and head office in Korea to conduct and report on research and testing on ina recognition technology. Must be fluent in Korean. Respond to: Linda Walsh, HR Manager, LG Electronics USA, Inc., 2000 Millbrook Drive, Lincolnshire, IL 60069 or fax to 847-941-8200.

Project Manager. Oversee installation of computer telecommunications integration systems at client sites. Obtain system acceptance at completion. Req'd: Bach. Deg. in Comp. Science, Business Admin. or Eng'g. Syrs. exp. in the job offered as a Systems Eng. or in a computer telecommunications integration occup. Must have exp. w/ LAN, WAN, PBX, & CTI. Must be fluent in Spanish & willing to travel extensively through out the US, Central & S. America. Resume to: NICE Systems, Inc., 301 Rte. 17 N., 10th Fl., Rutherford, NJ 07070. Attn: Geraldine Farese.

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Cono Inc invites you to explore a dynamic career opportunity in our San Carlos CA office and client sites nationally Sr Unix System Administrator/Storage & Backup Administrator in the area of storage administration The individual must possess a minimum of 8 years of experience in Sun Solaris Administration 3 years experience as a backup/storage administrator and 2 years of experience with Veritas Volume Manager and Veritas File System

Please send resumes to Aimee Romeo Cono 959 Skyway Suite 100 San Carlos CA 94070 EOE Please reference Code 0210041

GAME JOBS Activision, an interactive entertainment software co., has openings for Programmer Analyst, Software Engineer and Design Specialist in Santa Monica, CA. Send resume to Staffing Coordinator, 3100 Ocean Park Blvd., Santa Monica, CA 90405.

Chief Executive Officer Determine and formulate policies and provide the overall direction of the company within the guidelines set up by a board of directors Plan direct or coordinate operational activities at the highest level of management with the help of subordinate executives and staff managers Direct plan and implement policies and objectives of business in accordance with board of directors Direct activities of organization to plan procedures establish responsibilities and coordinate functions among departments and sites Analyze operations to evaluate performance of company and staff and to determine areas of cost reduction and program improvement Confer with board members and staff members to establish policies and formulate plans Negotiate and approve contracts Prepare reports and budgets BS/MS or edu equiv and 5yrs management level exp required

Will also accept the degree equivalent in edu and exp Travel required Send confidential resume & salary requirements to Hexaware Technologies Inc Attn HR 4343 Commerce Court Suite 618 Lisle IL 60532

PROGRAMMER/ANALYST to analyze design develop debug and implement digital imaging application software for medical imaging devices using C C++ XML MFC and COM on Windows 2000 platform Analyze and develop service applications for configuration diagnosis and calibration of medical systems using Java Script, HTML ActiveX Control and XML Require B S degree in Computer Science/Engineering or a closely related field with 2 yrs of exp in the job offered A M S degree with a demonstrated ability to perform the stated duties gained through academic coursework/ previous work experience will be accepted in lieu of the B S degree and 2 yrs of exp Competitive salary offered Send resume to Amy Ryan Infimed Inc 121 Metropolitan Drive Liverpool NY 13088 Attn Job SS

Programmer/Analyst Resp for prog & syst analysis Analyze existing comp sys formulate/des Prog dev /direct syst testing proc BS or equiv in CS MIS or eng g rel will accept any BS with minor in CS MIS or Comp Eng'g rel usl have working exp using ASP/ASP Net COM/DCOM Oracle XML & TCP/IP 2 yrs or 2 yrs prog or syst analysis rel exp Multiple jobsites May change to other unanticipated sites throughout US as req FT Send res to USM Bus Systems Inc 35 High St Manchester NH 03104 Refs 005 Legal rt to work in US must be stated

SYSTEMS ANALYST to analyze design develop and maintain application software using WebSphere MQ Series XML C and C++ on UNIX platform Define and maintain Queue Managers using MQ Objects Require B S degree in Computer Science an Engineering discip Management Info Systems, or a closely related field with 2 yrs of experience in the job offered or as a Computer Engineer Extensive travel on assignment to various client sites within the U S is required Competitive salary offered Apply by resume to Rayender Geddam Orpine Enterprises LLC 1004 Crooked Creek Court, Mableton, GA 30126 Attn Job AK

Marconi Communications Inc is a global provider of high-performance communications solutions primarily for telecommunications service providers We are currently seeking Computer Professionals for our Vienna office who will be responsible for planning designing developing and testing software systems/applications for software enhancements and new products and to work on problems where refinement of design/requirements is necessary To qualify you must possess an MS or alternatively a BS plus at least 2 years of experience in Computer Science or Engineering There are 5 positions currently open with the following specific requirements

IP Routing Protocols Developer
Requirements include excellent programming skills in C/C++ knowledge of real-time operating systems including VxWorks knowledge of IP routing and related protocols including OSPF and DVMRP knowledge of modern networking technologies including NAT and firewalls and fluency with modern development environments including GNU tools Unix Shell programming and Socket programming

IP Signaling Protocols Developer
Requirements include excellent programming skills in C/C++ knowledge of real-time operating systems including VxWorks and Unix knowledge of IP routing and signaling protocols including OSPF BGP and RSVP knowledge of modern network technologies including MPLS and fluency with modern development environments including GNU tools and Unix Shell programming

Layer 2 and 3 Network Application Developer
Requirements include excellent programming skills in C/C++ knowledge of real-time operating systems including Unix knowledge of network technologies including Layer 2 and X 25 and fluency with modern development environments including Unix Shell programming Lex/Yacc and scripting languages including Perl

IP Router and ATM Switch Applications Developer
Requirements include excellent programming skills in C/C++ knowledge of real-time operating systems including Unix knowledge of modern network technologies including Frame Relay ATM and SNMP and fluency with modern development environments including GNU tools

IP/MPLS Applications Developer
Requirements include excellent programming skills in C/C++ knowledge of real-time operating systems including Unix knowledge of IP routing protocols including OSPF ISIS and BGP knowledge of modern network technologies including MPLS and virtual routers and fluency with modern development environments including GNU tools and Unix Shell programming

For ment information and to apply on-line please go to http://careers.hodes.com/Marconi MARCONI
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Database Administrator - various locations throughout U S - Coordinate changes to computer databases, test & implement the database including development testing & production of online Internet databases Position is 40 hrs/wk from 8 00 - 5 00 paying $83 000/yr Must have Bachelor's in comp sci or comp info sys Will accept foreign equiv or combo of academic & prof exp that is functional equiv of U S Bachelor's degree Must have 3 yrs exp w/job offered or 3 yrs exp as comp professional 3 yrs exp to include 18 months exp w/Oracle 7 x 8 0 Iwatch, Erwin Shareplex Netbackup & Autosys Submit resume referencing #WEB 393811 submit resume to Manager Butler County CareerLink Pullman Commerce Center 112 Hollywood Drive Suite 101 Butler PA 16001-5899

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CA, Network Associates Let CDW Track Licenses

BY THOMAS HOFFMAN

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TOOL FOR VENDORS

Macrovision offers a license-tracking tool designed for software vendors themselves.

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HP Opteron

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BPA ABM

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HP will offer two Opteron-based servers sometime during the second quarter. Pricing was unavailable.

- **ProLiant DL145**, a two-[illegible] to serve [illegible]
- **ProLiant DL585**, a four-[illegible] database and [illegible]

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BPA ABM

FRANK HAYES ▪ FRANKLY SPEAKING

Fighting Offshore

WORRIES ABOUT OFFSHORE OUTSOURCING aren't just for IT people anymore. Last week, a new anti-offshoring coalition rolled out its agenda — a group led by midsize manufacturers, along with labor unions, professional organizations and small retailers (see story, page 16). The newly minted Jobs and Trade Network isn't just concerned about sending away programming jobs, of course. Its members want to fight everything from manufacturing jobs going offshore to big-box retailers wiping out family stores. But they see offshoring as the root problem.

Can a bunch of manufacturers really do something about it?

At first glance, that's hard to believe. True, the group hopes to get bills through Congress setting some limits on offshoring. One proposal would block sending federally funded work overseas. Another would require companies to give three months' notice before laying off workers and sending their jobs offshore.

But that's all pretty mild. And there are real limits to how much effect even tougher anti-offshoring laws could have. All laws have loopholes, and multinational corporations are good at slipping through them.

What else could the anti-offshoring forces do? Maybe they'll try to marshal consumer buying power, reviving the old "Buy American" campaigns. It might work — but most Americans today aren't big on buying American if they have to pay extra for the privilege.

Or the coalition might attempt to get socially conscious investors to put their money only into companies that don't send jobs overseas. But that doesn't sound likely to bold back a tidal wave of offshoring either.

Ultimately, there's just one way anti-offshoring groups can be sure to win: by demonstrating a business model more profitable than offshoring.

That's not as crazy as it sounds. New business models show up all the time. Sometimes they're enabled by improved technology — that's how help desk offshoring became possible. In other cases, they come from a radical rethinking of how businesses can work.

Is there actually a way to make more profits than by using cheap offshore labor? You wouldn't think so. It just sounds wrong.

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

But then, it sounded all wrong nearly a century ago when Henry Ford first slashed the profit margin on his Model T by cutting the price — from $850 in 1908 to $99 in 1914 — and then doubled what he paid the workers on his assembly line. The result: Profits doubled every two years, and Ford Motor Co.'s market share climbed to a whopping 48%.

It didn't sound possible to improve product quality by getting rid of quality inspectors, either — but that's what W. Edwards Deming convinced Japanese manufacturers to do after World War II. U.S. companies are still trying to catch up to the Japanese.

Just as counterintuitive was the 1980s notion of getting rid of warehouses full of parts and finished products. Today it's hard to find any manufacturer that doesn't use some just-in-time approach.

Those radical business-model changes all came in the manufacturing world. So maybe manufacturers really do have a chance to make offshoring obsolete after all.

And for corporate IT people, there's good reason to keep an eye on how well they do — and not just to cheer on alternatives to offshoring.

If there is a business model that's more profitable than offsboring, you don't want to be behind the curve. You'll need to understand it — and fast — because your IT shop will have to help your company implement it while it still gives you an advantage.

Should anti-offshoring manufacturers find something that really is better than offshoring, you'll want to be the first to know. 45029

Er, Thanks, but No Thanks

We need a generic log-in for testing this software, developer tells manager pilot fish. "I'd reluctantly done this in the past, but I could see it was becoming a trend," fish says. "I told him I would create this generic user only if the program manager agreed to take responsibility. So if I come in Monday morning to find this generic account has wiped out the servers, this program manager would be responsible." No problem, says the developer. But a few minutes later, he's back with his boss's answer: "Never mind."

SHARK TANK

Oops!

Pilot fish gathers staff at this remote office for a first-ever companywide conference call that's been in planning for weeks. But after a half hour of waiting for HQ to call, fish dials corporate to learn that the meeting is in progress. They're supposed to call so we can be part of it, fish tells receptionist. "I don't know how they're going to call you," receptionist says. "That meeting room doesn't have a phone."

OK, Not Such A Great Idea

When the air conditioning in the server room goes down, it gets hot in there – climbing to over 100 degrees. "The infrastructure guys get the bright idea of opening the window – yes, this server room has a window – to cool off the room," says an ex-scuba pilot fish. Great idea, right? "However, during this time, the lawn sprinklers go on," fish reports, "causing two brand-new high-end servers to get wet and bringing an entire project team of over 20 people to a grinding halt."

Not So Smart

This company is issuing smart phones to its traveling execs, and a pilot fish is tapped to provide support. Can I have one to get familiar with it? fish asks. Management's helpful response: "Read the manual and look at the pictures. Or maybe we can find an emulator that will show you what the phone is supposed to do when you perform certain actions."

One Step Less

Student pilot fish, working his way through school at a grocery store, knows the power-failure plan: "The manager will make a 'Service 200' call over the PA – that code is so as not to alarm the customers – and all staffers will immediately proceed to the front of the store to get flashlights." At the first power failure, the generator kicks in – then promptly runs out of fuel. "At which point we realized the PA wasn't hooked up to the generator or the UPS," fish says. New policy: "If the lights go out, there's a power failure. Go to the front of the store."

FEED THE SHARKS Send your true tales of IT life to sharky@computerworld.com. You snag a snazzy Shark shirt if we use it. And check out the daily feed, browse the Sharkives and sign up for Shark Tank home delivery at computerworld.com/sharky.

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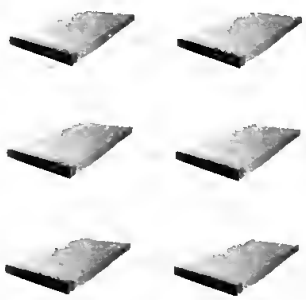

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Comparison is based on a single IBM pSeries 690 Server versus a grid of small servers. As of December 17, 2003: Oracle Database 10g: Sixteen-node HP Integrity rx5670 server cluster, each with 4 Intel® Itanium® 2 1.5 GHz processors, 1,184,893.38 tpmC, $5.52/tpmC, available April 30, 2004. IBM DB2 UDB 8.1: IBM eServer pSeries 690, POWER4 1.7 GHz, 763,898.39 tpmC, $8.25/tpmC, available November 8, 2003. Source: Transaction Processing Council (TPC), www.tpc.org. Per processor prices are based on the TPC-C executive summary for the respective results listed above. Note: 'Never breaks' indicates that when a server goes down, your system keeps on running.

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